



City of Leeds.



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year,

1920.



CITY OF LEEDS.

REPORT

ON THE

Health and Sanitary Administration

OF THE CITY

FOR THE YEAR 1920.

BY

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Medical Officer of Health.

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CITY OF LEEDS.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have pleasure in presenting the Annual Report of the health of the City for the year 1920.

The year has been one of progress in every direction as the vital statistics and other records embodied in the Report show. The marriage rate was a record one in the history of the City, whilst the birth-rate was the highest recorded for twelve years. The death-rate reached a lower figure than in any other previous year with the exception of 1912, and the infantile mortality rate continued to decline. The standard of health of the City was, therefore, uniformly good, and the reduction in the amount of sickness as well as in the number of deaths at all ages was most encouraging. The year was free from serious epidemics of infectious disease.

I have once more to acknowledge my indebtedness to the members of my staff for their loyal co-operation and help. I am particularly grateful to my assistant and deputy, Dr. R. H. H. Jolly, for the valuable assistance which he has afforded in the general administration of the sanitary affairs of the City. I should also like to take this opportunity of expressing my thanks to the Chairman and Members of the Health Committee for their continued courtesy and kindness.

I am, Gentlemen,

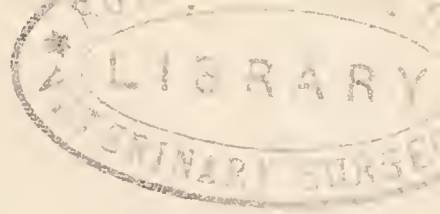
Your obedient servant,

J. JOHNSTONE JERVIS.

*Public Health Department,
Market Buildings, Leeds,
August, 1921.*

SUMMARY, 1920.

AREA OF CITY	28,089 $\frac{3}{4}$ Acres.		
POPULATION (Registrar-General's estimate) ..	448,913		
„ (Local estimate)	480,297		
	Average.		
	1920. 1910-19.		
BIRTH RATE (births per 1,000 living) ..	25·01	21·3	
MARRIAGE RATE (persons married per 1,000 living)	23·46	16·71	
DEATH RATE (deaths per 1,000 living) ..	14·68	16·10	
NATURAL INCREASE OF POPULATION ..	4,638	2,341	
(Excess of births over deaths in the year)			
INFANT MORTALITY RATE	110	130	
(deaths under 1 year per 1,000 births)			
DEATH RATE from Pulmonary Tuberculosis	1·23	1·36	
„ „ other forms of Tuberculosis	0·33	0·54	
„ „ Pneumonia and Bronchitis	2·78	2·78	
„ „ Cancer	1·10	1·09	
„ „ Diarrhoea and Enteritis (under 2 years) per 1,000 births	12·47	25·92	
Number of cases of Scarlet Fever	1,363	1,205	
„ „ Diphtheria	885	713	
„ „ Typhoid Fever	29	72	



NATURAL AND SOCIAL CONDITIONS.

Situation and Physical Features.—The City of Leeds is situated on the banks of the river Aire in the West Riding of Yorkshire, latitude 53.48° north, longitude 1.32° west. It stands for the most part on the coal measures at an average height above sea level of 250 feet. It is the chief town of the West Riding and is an important commercial and railway centre. In extent it is nine and a half miles in length from east to west, with a breadth from north to south of about seven and a half miles, and a circumference of approximately thirty-six miles and has an area of 28,090 acres.

Principal Industries.—The principal industries represented in the City are engineering, iron and steel, woollen, ready-made clothing, leather, boot and shoe, printing and dyeing. In addition

to its being a noted industrial centre it is also important as a commercial and educational centre. It possesses a modern university and medical school, a large and well equipped technical school, and is an important training centre for teachers.

Voluntary Medical Institutions.—The principal voluntary medical institutions in the City are, The Leeds General Infirmary, The Leeds Maternity Hospital, The Hospital for Women and Children and the Leeds Public Dispensary.

The Leeds General Infirmary has a total bed accommodation of 499 which are devoted to the treatment of medical and surgical diseases, including diseases of children, also of the eye, ear, nose and throat and skin. In addition it possesses a large modern and well-equipped out-patient department.

The average number of patients in residence during 1920 was 363 which were allocated as follows :—surgical, 184, medical, 78, special diseases, 101. The total number of admissions was 8,761, and the average length of residence 14.5 days. The total number of new out-patients admitted was 44,128 and the total attendances made 194,756.

Attached to the Infirmary is a convalescent home of 88 beds which is beautifully situated in the country on the north-western boundary of the City.

Leeds is in the unfortunate position of being without a children's hospital, any children's work being done by The General Infirmary. The recent opening of a special children's department in that institution ought to go, at any rate some of the way, towards supplying the lack. But in a city where practically one-third of the total deaths are of children under fifteen years of age more accommodation for in-patients is wanted than 100 beds.

The Leeds Maternity Hospital is a hospital of 70 beds for lying-in cases. It works in close co-operation with the Health Committee of the Corporation and forms a most important link in the scheme for Maternity and Child Welfare. Just recently it has been recognized by the University as the training school in obstetrics for the medical degree

The total number of cases admitted during 1920 was 1,540 ; the average daily number of patients in residence 70.2 ; the average length of stay in hospital 18.2 days and the total births 1,314.

The hospital is also recognized as a centre of training for the certificate of the Central Midwives Board and last year 98 pupils were trained and 83 were successful in obtaining the Board's certificate.

By agreement with the Corporation the hospital maintains four midwives in working class areas of the City. These midwives work under the supervision of a superintendent sister, appointed by the hospital.

The total number of births attended by the district midwives during the year was 1,366 and these added to the number which took place inside the hospital make a total of 2,680.

The Hospital for Women and Children has a bed accommodation for 50 patients. During the year 929 in-patients (613 from Leeds) and 1,624 out-patients (1,354 from Leeds) were treated. The average daily number in residence was 39 and the average length of stay 15 days. The majority of the patients now treated in this hospital are women and the diseases dealt with chiefly those peculiar to the female sex. Children are only treated as out-patients and are in a minority.

The Leeds Public Dispensary is the only institution of its kind in the City. It admits cases of all kinds and provides treatment for those who can suitably be dealt with as out-patients. During the year a total of 28,872 new patients were registered including 10,577 accidents, 9,512 ordinary cases and 8,733 special cases. With the exception of 2,126 all these cases belonged to the City. The total number of attendances was 101,949 and the total number of operations performed 230.

VITAL STATISTICS.

Marriages.—The total number of marriages registered during the year was 5,620, which includes marriages in the registration districts* of Leeds, Hunslet, Holbeck, and Bramley. The marriage rate was 23·5 per thousand population as compared with 21·2 for 1919. This is the highest rate ever recorded and exceeds the rate for England and Wales (20·1) by 3·4.

* Registration districts are based on the areas of Poor Law Unions, of which there are four in Leeds, but the boundaries of the Unions do not coincide with those of the City. The whole of the Leeds Union is within the City, but only parts of the Hunslet, Holbeck and Bramley Unions. The Hunslet Union includes Templenewsam and Rothwell, Holbeck includes Churwell, and Bramley Union includes Gildersome.

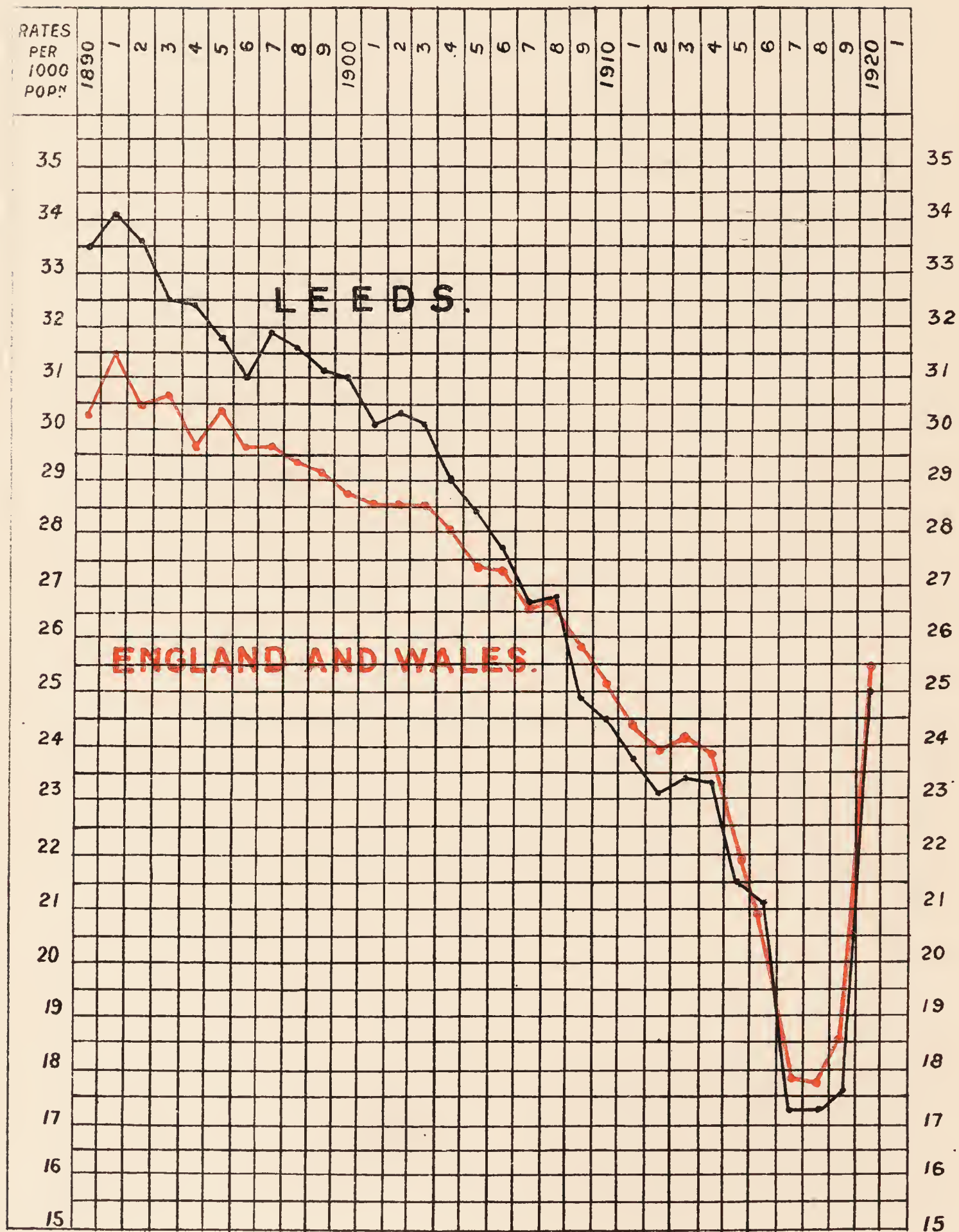
MARRIAGE RATE.

Year.	Leeds.	England and Wales.
1910	15·6	15·0
1911	15·7	15·2
1912	16·0	15·5
1913	16·4	15·5
1914	16·6	15·9
1915	20·2	19·5
1916	15·5	14·9
1917	14·2	13·8
1918	15·5	15·3
1919	21·2	19·7
1920	23·5	20·1

BIRTH RATE.

Year.	No. of births.	Birth rate, LEEDS.	England and Wales.
1890-1894	62,270	33·2	30·5
1895-1899	63,873	31·5	29·6
1900-1904	64,791	30·1	28·4
1905-1909	59,117	26·9	26·7
1910-1914	53,267	23·6	24·2
1915	9,877	21·5	21·9
1916	9,432	21·1	20·9
1917	7,566	17·3	17·8
1918	7,392	17·3	17·7
1919	7,564	17·6	18·5
1920	11,229	25·0	25·4

BIRTH-RATE 1890-1920.



Births.—During the year a gross total of 11,587 births was registered from which 393 must be deducted as belonging to other districts and 35 belonging to Leeds though registered in districts outside the City added, giving a nett total of 11,229 which is 3,665 in excess of the nett total for the previous year. The birth-rate per thousand of the population corresponding to this total was 25·0 as compared with 17·6 for the previous year, and 25·4 for England and Wales. This is the highest rate recorded since 1908 and comes as a very welcome relief after the steady and disquieting decline of the last six years. The average number of births (nett) for the previous five years was 8,366 and the average birth-rate for the same period 19·0.

Birth-rate in Quarters.—The birth-rate for the first quarter of the year was 30·1, for the second 25·6, for the third 23·7 and for the fourth 20·8, a drop of 9·3 per thousand population between the first and fourth quarter. The phenomenal number of births in the first and second quarters was due, in all probability, to the return of men from the army and the reconstitution of home-life after the disturbing effects of the war with in addition the continuation of industrial prosperity and high wages. Towards the end of 1919 the trade boom began to break and in its place came industrial stagnation and unemployment, the effects of which will in all probability be reflected in a decrease in the number of births during the current year.

Illegitimate Births.—Of the 11,229 births, 631 or 5·6 per cent. were illegitimate as compared with 567 or 7·5 per cent. in 1919.

For an analysis of the births showing their distribution in wards, see page 10.

Deaths.—The total number of deaths of Leeds people was 6,591 arrived at as follows :—gross total of deaths registered 6,725, plus inward transfers, 283, minus outward transfers, 417. The death-rate per thousand of the population was 14·7 as compared with 16·2 for the previous year and an average of 16·9 for the previous five years.

Death-rate in quarters.—The quarterly death-rates were 20·6 for the first quarter, 13·9 for the second, 11·2 for the third, and

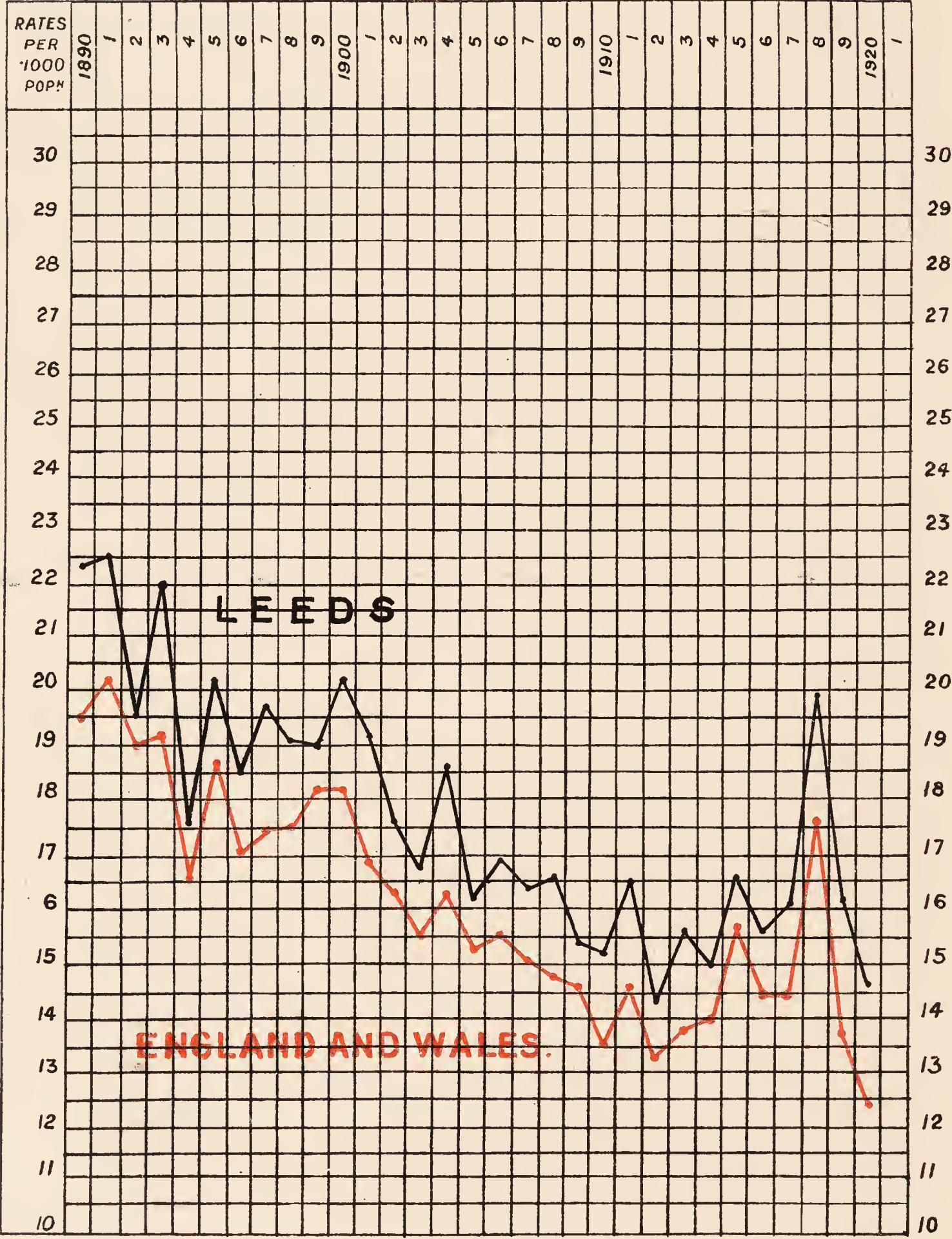
BIRTHS AND BIRTH RATE IN WARDS.

MUNICIPAL WARD.	Population Estimated.	Nett births.	Birth- rate.	Illegiti- mate births.	Percentage of illegitimate births to total births.
Central	11,932	270	22·63	28	10·4
North	41,995	890	21·19	52	5·8
North-East	37,752	970	25·69	51	5·3
New Ward* ..	7,742	114	14·72	9	7·9
East	35,997	1,087	30·20	53	4·9
South	11,400	453	39·74	29	6·4
East Hunslet ..	32,754	967	29·52	42	4·3
West Hunslet ..	37,067	893	24·09	39	4·4
Middleton† ..	1,254	19	..	2	..
Holbeck	29,542	828	28·03	45	5·4
Mill Hill	5,070	93	18·34	6	6·5
West	18,894	563	29·80	60	10·7
North-West ..	29,231	789	26·99	51	6·5
Brunswick	22,744	508	22·34	43	8·5
New Wortley ..	15,607	506	32·42	27	5·3
Armley and Wortley	36,874	811	21·99	37	4·6
Bramley	24,107	451	18·71	12	2·7
Headingley ..	48,951	1,017	20·78	45	4·4
City	448,913	11,229	25·01	631	5·6

* Roundhay, Seacroft, Shadwell, and Crossgates.

† Middleton births from April 1st, 1920, only.

DEATH RATE, 1890 - 1920.



13.1 for the fourth. The high rate in the first quarter was attributable to the prevalence of measles and whooping cough, in addition to the other ordinary respiratory complaints which were more than ordinarily severe.

Comparison with previous years.—Not since 1912 and never at all before that year has such a low death rate been recorded for the City. This is something of which Leeds might justly be proud were it not for the fact that the death-rate for England and Wales was so very much lower, namely 12.4, thus showing that notwithstanding the favourable position as regards the wastage of life which the City has attained it has still a long way to go before the ideal is reached.

Causes of Death.—The principal causes of death were, in order of numerical importance, bronchitis, pneumonia, phthisis, heart disease and cancer. Respiratory diseases as a group (including phthisis and influenza) were responsible for 31.3 per cent. of the total deaths. This fact is of the utmost significance as it cannot be doubted that many of these diseases were partly if not entirely attributable to the atmospheric pollution which is so marked in many of the districts of the City. Smoke is one of the most important allies of disease just as sunshine is of health. It has more profound physiological and psychological effects than any other single physical phenomenon. The toll of life exacted by respiratory complaints is greater in the crowded areas of the City and where there are a concentration of public works than in the more open residential parts. I feel on safe ground when I say that the majority of lives lost from respiratory diseases are lives thrown away. Their prevalence and the high mortality due to them are a grave indictment of our modern civilisation. They are preventible; yet they are not prevented. They are curable; yet they continue to kill. Prevention can only be achieved by tackling the smoke nuisance resolutely and compelling manufacturers to adopt cleaner and more rational methods of extracting heat from coal fuel and at the same time by extending the system of central heating for domestic purposes.

ANNUAL DEATHS AND DEATH RATE.

Year.	Population.	Nett deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1901	429,383	8,204	19·2	16·9
1902	431,043	7,699	17·6	16·3
1903	432,703	7,263	16·8	15·5
1904	434,363	8,039	18·6	16·3
1905	436,023	7,047	16·2	15·3
1906	437,683	7,350	16·9	15·5
1907	439,343	7,167	16·4	15·1
1908	441,003	7,430	16·6	14·8
1909	442,663	6,806	15·4	14·6
1910	444,323	6,711	15·2	13·5
1911	445,983	7,331	16·5	14·6
1912	447,746	6,396	14·3	13·3
1913	457,295	7,237	15·6	13·8
1914	459,260	6,885	15·0	14·0
1915	459,260	7,609	16·6	15·7
1916	446,349	6,946	15·6	14·4
1917	438,254	7,052	16·1	14·4
1918	427,589	8,529	19·9	17·6
1919	430,834	6,992	16·2	13·7
1920	448,913	6,591	14·7	12·4

DEATHS AND DEATH RATE IN WARDS.

MUNICIPAL WARD.	Population estimated.	Nett deaths.	Death-rate.
Central	11,932	221	18·52
North	41,995	528	12·57
North-East	37,752	586	15·52
New Ward*	7,742	81	10·46
East.. ..	35,997	555	15·42
South	11,400	264	23·16
East Hunslet	32,754	491	14·99
West Hunslet	37,067	515	13·89
Middleton†	1,254	5	—
Holbeck	29,542	490	16·59
Mill Hill	5,070	60	11·83
West	18,894	387	20·48
North-West	29,231	422	14·44
Brunswick	22,744	309	13·59
New Wortley	15,607	266	17·04
Armley and Wortley	36,874	500	13·56
Bramley	24,107	303	12·57
Headingley.. ..	48,951	608	12·42
City	448,913	6,591	14·68

* Roundhay, Seacroft, Shadwell and Crossgates.

† Middleton deaths from April 1st, 1920, only.

PRINCIPAL CAUSES OF DEATH.

Death rate.	DISEASES.	No. of deaths in 1920 (nett).	Increase or decrease compared with 1919.
0·01	Enteric Fever	4	- 4
..	Smallpox .. ..	..	..
0·33	Measles	148	+ 100
0·04	Scarlet Fever	17	- 6
0·22	Whooping Cough	100	+ 34
0·14	Diphtheria and Croup ..	64	+ 21
0·38	Influenza	170	- 453
0·03	Erysipelas	15	+ 6
1·23	Phthisis (pulmonary tuberculosis)	552	+ 10
0·13	Tub. Meng. and Acute Hydroceph.	57	- 6
0·20	Other Tuberculous Diseases ..	89	- 25
1·10	Cancer, Malignant Disease ..	492	- 83
0·07	Rheumatic Fever	31	- 6
0·22	Meningitis	98	+ 6
1·19	Heart Disease	536	- 91
1·39	Bronchitis	625	- 116
1·39	Pneumonia (all forms) ..	622	+ 62
0·21	Other diseases of respiratory organs	96	- 20
0·36	Diarrhœa and Enteritis ..	161	- 8
0·05	Appendicitis and Typhlitis ..	24	+ 3
0·04	Cirrhosis of Liver	17	+ 2
0·00	Alcoholism	1	- 2
0·48	Nephritis and Bright's Disease	216	- 2
0·06	Puerperal Fever	29	+ 23
0·06	Other accidents and diseases of Pregnancy and Parturition	28	- 1
0·97	Congenital Debility and Malformation including Premature Birth	435	+ 107
0·45	Violent deaths, excluding Suicide	200	- 6
0·09	Suicides	41	+ 4
3·81	Other Defined Diseases ..	1,711	+ 47
0·03	Diseases ill-defined or unknown	12	+ 3
14·68		6,501	- 401

DEATHS IN AGE GROUPS (NETT), 1911-20.

Together with the percentage of the total deaths, represented by each group
(in italics).

Year.	Under 1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
1911	1,679 <i>22.9%</i>	483 <i>6.6%</i>	380 <i>5.2%</i>	309 <i>4.2%</i>	303 <i>4.1%</i>	903 <i>12.3%</i>	1,589 <i>21.7%</i>	1,685 <i>23.0%</i>	7,331
1912	1,051 <i>16.4%</i>	311 <i>4.9%</i>	291 <i>4.5%</i>	286 <i>4.5%</i>	303 <i>4.7%</i>	906 <i>14.2%</i>	1,502 <i>23.5%</i>	1,746 <i>27.3%</i>	6,396
1913	1,469 <i>20.3%</i>	419 <i>5.8%</i>	344 <i>4.8%</i>	265 <i>3.7%</i>	292 <i>4.0%</i>	946 <i>13.1%</i>	1,684 <i>23.3%</i>	1,818 <i>25.1%</i>	7,237
1914	1,324 <i>19.2%</i>	469 <i>6.8%</i>	358 <i>5.2%</i>	269 <i>3.9%</i>	276 <i>4.0%</i>	923 <i>13.4%</i>	1,605 <i>23.3%</i>	1,661 <i>24.1%</i>	6,885
1915	1,253 <i>16.5%</i>	439 <i>5.8%</i>	389 <i>5.1%</i>	260 <i>3.4%</i>	318 <i>4.2%</i>	965 <i>12.7%</i>	1,850 <i>24.3%</i>	2,135 <i>28.0%</i>	7,609
1916	1,216 <i>17.5%</i>	391 <i>5.6%</i>	285 <i>4.1%</i>	240 <i>3.5%</i>	287 <i>4.1%</i>	885 <i>12.7%</i>	1,683 <i>24.2%</i>	1,959 <i>28.2%</i>	6,946
1917	1,023 <i>14.5%</i>	400 <i>5.7%</i>	422 <i>6.0%</i>	331 <i>4.7%</i>	302 <i>4.3%</i>	835 <i>11.8%</i>	1,734 <i>24.6%</i>	2,005 <i>28.4%</i>	7,052
1918	984 <i>11.5%</i>	474 <i>5.6%</i>	743 <i>8.7%</i>	514 <i>6.0%</i>	579 <i>6.8%</i>	1,214 <i>14.2%</i>	2,007 <i>23.5%</i>	2,014 <i>23.6%</i>	8,529
1919	899 <i>12.9%</i>	239 <i>3.3%</i>	298 <i>4.3%</i>	299 <i>4.3%</i>	344 <i>4.9%</i>	957 <i>13.7%</i>	1,780 <i>25.4%</i>	2,176 <i>31.2%</i>	6,992
1920	1,232 <i>18.7%</i>	255 <i>3.9%</i>	283 <i>4.3%</i>	283 <i>4.3%</i>	291 <i>4.4%</i>	844 <i>12.8%</i>	1,572 <i>23.9%</i>	1,831 <i>27.8%</i>	6,591

Hospital provision.—Cure is not less attainable than prevention and could be assured in almost every case if better provision were made for the nursing of actual cases. A case of pneumonia in a house of two rooms occupied by a family of five or six persons has a very poor chance of recovery, whereas if such a case were removed to hospital and treated there under ideal conditions cure might be made practically certain. Unfortunately there is not sufficient hospital accommodation to permit of this being done. There are long waiting lists for the beds in most of our general hospitals including the Leeds General Infirmary and the only solution—and the most practical—is for the Poor-Law Authorities to give up part of the accommodation in their infirmaries for the reception and treatment of cases which cannot be accommodated in the general hospitals.

Comparative Statistics of the larger English Cities, 1920.

	RATE PER 1,000 POPULATION.					DEATH RATE PER 1,000 BIRTHS.	
	Population.	Birth Rate.	Death Rate.	Phthisis. Death Rate.	Other Tuberculosis. Rate.	Deaths under One Year.	Diarrhoea and Enteritis under 2.
London .. {	4,552,907 4,531,971 }	26·5	12·4	1·02	—	75	9·35
Birmingham ..	910,000	27·6	12·6	0·93	0·17	83	9·50
Liverpool ..	781,948	32·0	16·4	1·4	0·3	113	17·7
Manchester ..	786,293	24·3	13·0	1·10	0·29	97	12·38
Sheffield {	493,839 492,570 }	26·6	13·5	0·93	0·26	104	—
Leeds	448,913	25·0	14·7	1·23	0·33	110	12·47
Bristol .. {	376,321 375,641 }	25·6	12·1	0·97	0·22	70	7·88
Hull	290,808	29·1	13·2	0·89	0·34	98	—
Bradford ..	293,979	20·7	13·1	0·88	0·19	92	6·81
Newcastle {	287,255 286,061 }	28·0	14·0	1·3	0·4	101	12·5
Nottingham {	267,966 267,836 }	25·6	12·9	0·84	0·27	96	11·4

Excess of births over deaths.—The excess of births over deaths for the year, or what is often spoken of as the “natural increase of population,” was 4,638 a marked improvement on the figure for last year (572) and on the average for the previous ten years (2,341).

Deaths in Age groups.—In 1920, 36 per cent. of the total deaths occurred in persons between the age of 0-25 years, as against 13 per cent. between 25-45, 24 per cent. between 45 and 65, and 26 per cent. between 65 and 85. Compared with 1919 the only age group in which there is an increase is the group 0-25 years (see table). Actually the increase took place in children under two years of age.

For the death rates from infectious and other special diseases see pages 43 to 56 and for the infant death rate see page 78.

Further particulars as to births and deaths at all ages appear in the appendix (Tables I., III., and IV.).

SANITARY CIRCUMSTANCES.

Water.—Leeds possesses an abundant and constant supply of water of excellent quality which is derived from the uplands between Otley and Pateley Bridge, a distance of about 15 miles from the centre of the City. Three storage reservoirs, Fewston, Swinsty and Eccup, the two first-mentioned in the valley of the Washburn and the last within a short distance of the boundary of the City, with a total capacity of 3,122 million gallons have been constructed, with in addition a compensation reservoir at Lindley Wood also in the Washburn Valley and seven service reservoirs in different parts of the City. Four 30 inch gravitating mains bring the water from Swinsty to Eccup and one 24 inch main from Arthington to Eccup which together are capable of delivering 24 million gallons per day. The gravitating mains are each 11 miles long and the 24 inch main 4 miles long. For the year ended 31st March, 1920, the consumption of water in gallons, daily, was as follows :—for domestic purposes, 11,002,000, for trade purposes, 5,168,000, and for outside authorities 508,000, giving a total daily consumption of 16,678,000 gallons.

The water before distribution passes through sand filters which cover an area of about 13 acres at Headingley and Weetwood about three miles from the centre of the City in a north-westerly direction. The area of the Washburn watershed from which the water supply of the city is derived is 21,552 acres and the daily yield of water during the three driest consecutive years 18·2 million gallons. The water is slightly alkaline in re-action and unless it remains for a prolonged period in contact with lead has no chemical action on that metal.

Rivers and Streams.—The river Aire which is the principal river in the vicinity of Leeds is grossly polluted by the effluents from a number of sewage works on the outskirts of the City belonging to adjoining local authorities, as well as by trade effluents of which a considerable volume enters the river both within and beyond the city boundaries. It must be acknowledged however that in recent years largely owing to the constant vigilance of the West Riding of Yorkshire Rivers Board there has been progressive improvement in the condition of the river and it is anticipated that there will be further improvement very shortly as schemes are in hand which when completed will greatly alter the character of the effluents from the largest of the sewage works already mentioned. More attention requires to be paid to the quality of trade effluents and more stringent measures adopted to compel manufacturers to maintain a higher standard of purification. The river is navigable for boats of shallow draft from its mouth to the centre of the City, a fact which has considerable bearing on the purity of the river. Several streams or “becks” in the neighbourhood of the City, tributaries of the Aire, are polluted by the overflow from cesspools belonging to farms and other property in the outlying unsewered parts of the City. The construction of sewers wherever possible has reduced the volume of this pollution very considerably.

Drainage and Sewerage.—The total length of the sewers in Leeds is 534 miles, whilst the size of the main outfall sewer is 8 ft. by 7 ft. 9 in. The main sewage disposal works are situated at Knostrop in Thorpe Stapleton about three miles from the centre of the City in a south-easterly direction, where in 1909 a site of 600 acres was purchased by the Corporation and it is the intention to treat the sewage from practically the whole of the City on the site. Active

operations are in progress at present in the construction of settling tanks, bacteria beds and a new high level intercepting sewer. When completed Leeds will have one of the most up-to-date sewage disposal schemes in the country. Meanwhile in addition to the Knostrop works already mentioned the sewage of the City is being treated at three smaller works, viz. : Rodley, Killingbeck and Stanks. The last two mentioned deal with sewage from the district of Roundhay, Seacroft, Shadwell, and Crossgates which were added to the City in November, 1912. Middleton, added to the City in April, 1920, possesses two small sewage works which are largely ineffective and will be dispensed with as soon as possible.

Closest accommodation.—Leeds used to be a privy midden City but since 1900 rapid developments have taken place with the result that to-day the total number of privy middens remaining in the whole of the City is about 1,131 including Middleton, and these are gradually being converted into modern water closets wherever sewers are available. In addition there are 8,910 trough water closets attached to dwelling-houses and business premises. These are also continually disappearing and being replaced by the more modern and satisfactory pedestal type of water closet. As an inducement to landlords to convert the trough water closets in connection with their property into water closets of the modern type the Health Committee offers to pay half the cost of actual conversion. This concession has undoubtedly caused the disappearance of many trough water closets which otherwise would have remained. The number of pail closets remaining is small, viz. 128.

The trough water closets are flushed four times a week and disinfected with a solution of carbolic acid by a special staff of men retained by the Cleansing Department for the purpose. During the year 111 privy middens, 11 pail closets, and 61 trough closets were converted into pedestal water closets.

Scavenging.—In Leeds a special committee (The Cleansing Committee) is responsible for the scavenging and street cleansing, but the two departments, Cleansing and Health, work in close co-operation. The staff of the Cleansing Department consists of a superintendent, assistant superintendent, and office staff, 3 head inspectors, 21 assistant inspectors and 825 men. The streets are swept regularly by motor and horse machines and the sweepings thus collected carted away to the various tips or sold for manure.

In addition sweepers are constantly at work during the day on all the main streets. The gullies are cleansed regularly (the frequency depending on the position) by a vacuum gully cleanser as well as by hand.

Ashpits and Ashbins.—There are 14,945 ashpits in the City and 51,886 moveable ashbins. The former are cleansed weekly, fortnightly or monthly according to capacity and number of houses served and the latter daily or bi-weekly. Privies and cesspools are emptied weekly, monthly, or every six weeks according to situation and need. All household refuse is removed in covered vehicles; part of it is destroyed at four destructors situated at convenient points and the remainder disposed of in tips or sold for agricultural purposes. To be exact 45 per cent of the total household refuse is dealt with at the destructors, 52 per cent. is used for agricultural purposes and 3 per cent. tipped. The total household refuse dealt with during the year ending December 31st, 1920, was 195,032 loads, weighing 170,653 tons.

The number of moveable ashbins provided during the year to replace ashpits abolished and dilapidated ashbins was 3,159.

SANITARY ADMINISTRATION.

Staff.—For purposes of sanitary administration the City is divided into two parts, the river Aire being the dividing line. Each part is under the supervision of a divisional sanitary inspector who is also a statutory inspector of nuisances. Each divisional inspector has a staff of assistant inspectors who are responsible for carrying out the detailed work in the districts into which each division is sub-divided. In addition to 16 ordinary assistant sanitary inspectors there are also 16 special inspectors as follows :—infectious disease 3, housing 1, smoke 2, food and drugs and dairies and cowsheds 3, workshops 3, canal boats and lodging houses 1, meat 2 (exclusive of the veterinary inspector), and an executive rats officer.

Sanitary Inspection of District.—During the year the inspectorial staff has been unremitting in their attempts to restore the sanitary conditions of the various districts of the City to the standard of pre-war days. The task, however, is no light one because it is always easier to descend from than to ascend to the ideal and the war in the eyes of certain people is still a sufficient excuse for pursuing a policy

of *laissez faire* and letting things remain in a state of neglect and disrepair. Pig-keeping increased to a remarkable degree during the war years, especially during the period of food shortage, and the Order of the Ministry of Food relaxing bye-laws and allowing more latitude to pig-keepers as regards the situation of piggeries and the number of pigs kept gave a fillip to the trade. The result was piggeries sprang up all over the City, many of them in most unsuitable places. No attempt was made to comply with the bye-laws as to construction and drainage, and now we are having to face the difficult task of persuading the owners that their pigs are creating a nuisance and must be dispensed with. But they either don't or won't understand, and in a number of cases force has to be employed before the requirements of the law are complied with. The same thing applies to the keeping of fowls.

Details of the work of the Sanitary Staff is given in tabular form on pages 22 and 23.

Notices.—The number of preliminary notices served during the year was 11,290 and statutory notices, 4,502.

Legal Proceedings.—In five cases legal proceedings were instituted for breach of the Public Health Acts and in all five were successful.

Underground Sleeping Rooms.—In regard to underground sleeping rooms, now that so many of the large houses in the City with basements underground or partially so are being converted into flats, it is necessary to ensure that no rooms in basements which do not fulfil the conditions laid down by the Housing Acts are used as sleeping rooms. Bye-laws are needed to give the Local Authority more power in this direction, otherwise difficulties are likely to arise in future in regard to these basement flats.

Common Lodging Houses, etc.—Particulars relating to common lodging-houses, houses let-in-lodgings, canal boats, vans, tents, and sheds, appear on pages 24 and 25.

SANITARY INSPECTION OF DISTRICTS.

	NORTH.	SOUTH.	City Total.
Houses completely examined for—			
Infectious disease 	1,298	1,131	2,429
Alleged nuisances 	335	198	533
Routine inspection 	111	49	160
Premises examined only as to—			
Occupants 	34	36	70
Buildings and offices ..	1,164	1,795	2,959
Drainage 	196	425	621
Nuisances found in above or other houses—			
Dirty houses 	285	89	374
Overcrowded houses 	23	25	48
Dampness or dilapidation ..	2,888	3,040	5,928
Drain or closet defects ..	4,414	4,628	9,042
Defective ashpits or bins ..	3,188	2,871	6,059
Other nuisances 	1,879	1,599	3,478
Outside nuisances found (gullies, etc.) 	2,477	2,807	5,284
Total nuisances found ..	15,154	15,059	30,213
Additional visits paid to houses for—			
Infective disease 	2,354	1,734	4,088
Completion of reports ..	192	2,252	2,444
To inspect work in progress	1,386	1,494	2,880
Other causes 	23,040	7,154	30,194
Drains tested 	1,629	1,732	3,361
Defects found in ditto. 	405	472	877

SANITARY WORKS CARRIED OUT DURING 1920.

NATURE OF WORK.	NORTH.	SOUTH.	City Total.
Houses cleansed	230	58	288
Overcrowded houses dealt with	15	24	39
Defective spouting, &c., repaired	2,201	1,512	3,713
Urinals cleansed or repaired ..	17	14	31
Privies or ash places repaired ..	222	100	322
Privies or pail closets converted	78	44	122
Waterclosets erected	21	7	28
New dry ashpits .. .. .	..	..	..
Ashbins provided	1,919	1,240	3,159
Trough closets converted into W.C.'s	10	51	61
Closets cleansed (limewashed), etc.	642	153	795
Drainage works carried out ..	431	293	724
Cesspools filled up	19	..	19
Public or private wells abolished	..	..	..
Houses supplied with towns' water	18	6	24
Trough and water closets repaired	1,194	697	1,891
Other house nuisances remedied	1,809	2,028	3,837
Total houses for which above work was done	12,353	8,353	20,706
Offensive accumulations removed and stopped gullies cleansed	1,464	1,787	3,251
Pollution of streams remedied ..	..	..	..
Other non-domestic nuisances re- moved	133	138	271
Total nuisances abated	10,423	8,152	18,575

LODGING-HOUSES, CANAL BOATS, VANS, etc.

Common Lodging-Houses.

Number registered—

Men's	25	Beds available	1,369	}	..	..	27
Women's	2	„ „	101				
Routine visits paid to C.L. Houses				..	..	..	98
Visits as to infective disease				..	..	..	—
Visits as to suspected smallpox				..	..	..	—
Visits as to drain tests and abatements				..	..	..	131
							—
Total visits				..	..	..	229
							—

Nuisances found :—				FOUND.		ABATED.
Dirty closets	..	..	..	16	..	16
Defective drains	..	..	..	8	..	8
Other nuisances	..	..	..	36	..	36
				—		—
Total				..	..	60
				—		—

In addition to the Common Lodging-Houses enumerated on the table there are three lodging-houses for men and one for women which are under the control of the Salvation Army and the Church Army. These contain altogether 310 beds for men and 50 for women.

Houses Let in Lodgings.

				HOUSES.		ROOMS.
Registered during 1920, let as furnished rooms				—	..	—
Removed from register				—
On register at end of 1920				121
Houses let in lodgings visited though not registered				1,337
Houses examined (new lodgings)				500
Drain testings (9 defects found)				..	228	
Re-testings on completion of work				..	9	
Visits for Abatement				590
„ Infectious disease				—
„ Additional inspection				..	3,633	

Nuisances—					FOUND.	ABATED.	
Dirty or bad bedding					33	..	33
Dirty rooms					147	..	147
Overcrowding					25	..	25
Dirty closets					51	..	51
Other nuisances					274	..	241
Structural defects					209	..	206

At the request of the University Authorities all lodgings are inspected by the Public Health staff before the houses are placed on the register of approved lodgings for the use of students.

New houses inspected during 1920 98 with 288 rooms to let.

Total visits to these houses .. 138

Canal Boats.

Registered during the year 1920					4
Re-registered „ „					1
Transferred to fresh owners					16
Struck off register (on revising register)					21
Remaining on register at end of year					155
Visits of inspection to wharves and locks					941
Complete inspections of boats (210 boats)					552
Cases of infectious disease					—
Cases of overcrowding					1
Dirty cabins					1

Vans and Tents.

Visits to vans during 1920					316
„ „ tents „ „					12
„ „ cellar dwellings or suspected dwellings					101
Additional visits to camping grounds					98
Visits for infectious diseases					—
Ice cream carts and sheds inspected					265
Additional visits to ice cream sheds					168

Nuisances—					FOUND.	ABATED.	
Dirty camping grounds					7	..	7
Dirty vans					3	..	3
Dirty closet					10	..	10
Camping grounds with no accommo- dation for van dwellers					6	..	5
Cellar dwellings closed					12	..	12
Dirty cellar dwellings					1	..	1
Dirty and unsuitable ice cream sheds					7	..	7
Other nuisances found in ice cream sheds					2	..	2

FACTORIES AND WORKSHOPS.

1.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	1,322	200	..
Workshops (Including Workshop Laundries.)	2,659	258	..
Workplaces	109	3	..
Total	4,090†	461	..

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	226	209	..	..
Want of ventilation	74	65	..	..
Overcrowding	8	6	..	..
Want of drainage of floors ..	1	1	..	..
Other nuisances	512	441	..	..
Sanitary accom- modation. { insufficient ..	51	40	..	..
{ unsuitable or defective..	165	136	..	..
Sec. 22 in force. { not separate for sexes ..	26	19	..	..
<i>Offences under the Factory and Work- shop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101) .. ..	..	..	..	..
Breach of special sanitary require- ments for bakehouses (SS. 97 to 100)	24	24	..	..
Other offences .. ..	..	..	..	..
Total	1,087	941	..	..

* Including those specified in Sections 2, 3, 7, and 8, of the Factory Act as remediable under the Public Health Acts.
† Exclusive of 2,827 visits to 649 bakehouses by ward inspectors.

3, 4, 5.—OTHER MATTERS.

Homework :—	Number of		
	Lists.	Outworkers.	
<i>List of Outworkers</i> (S. 107) :—		C.	W.
(No homeworkers on our register except amongst those engaged in making wearing apparel) .. ..	..	..	..
Lists received twice in the year	390	619	1,213
„ once in the year	38	25	95
Addresses of } received from other Authorities ..		23	
outworkers } forwarded to other Authorities ..		12	
Notices to occupiers as to keeping or sending lists ..		630	
Prosecutions.. ..		..
Inspection of Homeworkers' premises		472	
<i>Homework in unwholesome premises :—</i>			
Instances		52	
Notices		52	
Prosecutions.. ..		..
<i>Homework in infected premises :—</i>			
Instances		2†	
Orders made (S. 110)		2	
Prosecutions (SS. 109, 110) .. ..		..
[Infectious cases removed, disinfection carried out under ordinary powers.]			
<i>Workshops on the Register</i> (S. 131) at the end of year :—			
Ordinary (165 trades)		1,232	
Domestic (15 trades)		71	
Bakehouses on register as workshops		198	
Do. domestic		451	
Total number of workshops on Register		1,952	
<i>Matters notified to H.M. Inspectors of Factories :—</i>			
Failure to affix Abstract of the Factory and Workshop Act (S. 133) .. ..		..
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5).	Notified by H.M. Inspector ..	146	
	Reports (of action taken) sent to H.M. Inspectors..	97	
Other .. ..		..
<i>Underground Bakehouses</i> (S. 101) :—			
Certificates granted during the year		1	
In use at the end of 1920		34	

† These 2, were for patients suffering from scarlet fever.

The above table is that required by the Home Office and represents work done by the male workshops inspectors and by the women inspectors.

Offensive Trades.—Leeds being an important centre of the leather industry there are several tanneries and fell-mongers' premises which require to be kept under close supervision. In connection with one of these a complaint was received during the year of a nuisance arising from a tank in the grounds utilized for the precipitation and purification of the liquor from the lime vats. Investigation proved the nuisance to be due to the irregular emptying of the tank and to the variability of the temperature and concentration of the liquid. By emptying the tank more frequently the nuisance was completely abated.

There are also a certain number of gut scraping, fat extracting and bone boiling establishments. These have been closely observed and legal proceedings were taken against two firms for carrying on the trade of fat-extracting and fat-refining so as to be a nuisance with the result that one had to close down and find other premises outside the City boundaries whilst the other was compelled to put his premises into good sanitary repair and provide proper appliances for dealing with the offensive vapours arising from the boiling pans and digester. A third firm also engaged in fat-extracting after being warned again and again for carrying on their trade so as to cause a nuisance finally agreed, under threat of legal proceedings, to remove to more suitable premises [in a less populous part of the City.

Factories and Workshops.—On pages 26 and 27 will be found a complete summary of the work done under the Factories and Workshops Act and in a separate table the report on the inspection of bakehouses.

BAKEHOUSES.

OVERGROUND.			UNDERGROUND.		
Employees beyond family.	Workshop bake-houses.	Domestic bake-houses.	Employees beyond family.	Workshop bake-houses.	Total visits to all.
460	in 178	437	42	in 20	14
					2,827

OTHER VISITS PAID BY MALE WORKSHOPS INSPECTORS
ON ACCOUNT OF

	Factories.	Workshops.	Workplaces.
Non-abatements	510	980	37
Drain Inspection	40	270	..
Drains tested	18	144	..
Disease enquiries	46	6	..
River pollution .. ..	..	1	..
Complaints	56	110	2
Measurement of workrooms ..	6	299	..
Bakehouses { Underground ..	..	..	..
Above ground ..	..	..	..
Other causes	124	397	..
Appointments	35	80	2
TOTAL	835	2,287	41

WORK DONE.

	Factories.	Workshops.	Workplaces.
River pollution abated ..	..	1	..
Nuisances abated	113	668	2
TOTAL	113	669	2

Work of Women Inspectors.—Two women sanitary inspectors are constantly engaged in visiting the homes of outworkers, in carrying out investigations into the outbreak of infectious disease in factories, workshops and schools and attending to complaints received from the factory inspectors or other sources as to sanitary defects affecting the health of the workers in factories and workshops.

The following is a summary of their work.

Infectious Diseases.—The following visits were made :—

To schools (on account of 744 cases) ..	1,281
To absent pupils	104
To factories (107)	207
To workshops (9)	13
To workplaces, including restaurants (26)	51
To absent employees	6

Outworkers.—Visits paid to the homes of outworkers numbered 2,770. Of these, 472 were first visits and the remainder, 2,298 were additional visits for special reasons. In addition to these, 232 visits were paid to the premises of employers of outworkers. There were 52 sanitary defects found, all of which were rectified on representation from the Public Health Department.

Factories and Workshops.—Part of the work done by the women inspectors under this heading is included in the table on pages 26 and 27.

In addition to that appearing in the table the following visits were paid

Factories on receipt of complaint ..	243
Workshops (routine and complaint) ..	201
Workplaces, restaurants (do.) ..	60
Houses on receipt of complaint ..	52
	<hr/>
Total	556
	<hr/> <hr/>

Nuisances found 30, abated 18.

Smoke Inspection.—I have occasion in other parts of this report to refer to the importance of atmospheric pollution notably when dealing with the incidence of respiratory diseases (see page 53). I shall not therefore enlarge further on the subject here except to make an appeal to owners of factories to consider whether it would not be to their own advantage to scrap the antiquated and wasteful methods of extracting heat from coal largely used at present and to substitute more modern, more scientific and more economical methods. I would say to them why add to your losses and darken your outlook by turning money into smoke when you can increase your credit and brighten your prospects by turning

smoke into money. The public must insist on the lifting of the smoke veil which shrouds the heavens and demand a sight of the sun and the blue sky for themselves and their children.

A special commission appointed by the Government is at present enquiring into the whole subject of the pollution of the atmosphere by smoke.

	1920.	1919.
Complaints received	20	17
Furnaces inspected	9,570	7,367
Observation of chimneys (1 hour each) ..	4,392	1,976
Average duration of dense smoke per observation of one hour	1 min. 15 secs.	1 min. 15 secs.
Number of chimneys found emitting dense smoke three minutes per hour	544	78
Notices served on manufacturers	18	5
Notices served on owners of steam waggons	11	—
Notices served on stokers	54	23
Prosecutions	none	none
Smoke prevention appliances adapted to furnaces	50	68
Chimneys newly erected	12	6
Furnaces in connection with new chimneys..	22	10

Rat repression.—The Rats and Mice (Destruction) Act, 1919, came into force on January 1st, 1920, and the Health Committee forthwith appointed a whole-time Executive Rats Officer to carry out the provisions of this Act.

During the year two special rat campaigns were held, the first one from February 23rd to March 6th and the second one during the first week in November. The former was designed to advertise as widely as possible the legal responsibility laid on occupiers of rat-infested premises, and to urge them to seek the help and co-operation of the Rats Officer. A special feature of the first rat week was an exhibition of rat poisons, traps and other rat-destroying devices, held at 12, Market Buildings. The exhibition was well patronised by the public and much useful propaganda work was accomplished. Packets of rat poison were distributed free to small householders and public demonstrations were given of the use of these, also of methods of rat destruction by traps

and gas. The second rat week was in many respects similar to the first and was instituted with the object of intercepting the rodents during their migration from fields and hedgerows to their winter quarters in the sewers and houses of the City and also to kill off as many of the females as possible before the advent of the breeding season. Judged by the number of rats killed the results of both campaigns were disappointing, but what is just as important as the size of the "bag" is the interest aroused amongst the general public in the whole question of rat infestation and the loss accruing therefrom, and there can be no doubt that the publicity given to both efforts had in some measure this effect.

RESULT OF SPECIAL RAT CAMPAIGNS :—

Number of premises reported infested	..	..	489
Premises reported cleared	..	..	342
Premises partly cleared	..	..	62
Number of rats known to be destroyed	..	..	2,474

In addition to these special efforts, a regular systematic attack has been made on the rodent in all parts of the City throughout the year, as will be gathered from the summary of the work of the Rats Officer given below. It is too early yet to say whether the special legislation introduced by the Board of Agriculture and Fisheries is going to achieve its purpose and rid the country of the rat pest, but it cannot be doubted for one moment that, if it did have such a desirable result, it would confer tremendous benefit not only on the individual occupier of property but on the nation.

There is no doubt that a considerable amount of damage is still being done by rats in this City, and this will continue until people realise that unprotected foodstuffs and accumulations of animal or vegetable refuse on their premises cannot fail to attract rats. All food should be kept in rat-proof receptacles and store rooms. No food debris or refuse should be left lying about, but should be placed in metal bins with close-fitting lids and removed at frequent intervals to the destructor. This precaution particularly applies to butchers' shops, slaughter-houses, fish and vegetable markets.

SUMMARY OF WORK OF EXECUTIVE RATS OFFICER DURING 1920 :

Number of premises inspected	..	..	..	280
Premises with severe infestation	..	..	..	137
Premises with slight infestation	..	..	..	95
Premises with no infestation	..	..	..	48
Cases in which rat proofing carried out	..	..	..	34
Cases in which rat-catchers employed	..	..	..	19
Cases in which drainage found defective	..	..	..	3
Statutory notices served	..	..	..	—
Premises cleared of rats	..	..	..	64
Premises where infestation much diminished	..	..	..	20
Premises with work in hand at end of year	..	..	..	69

Schools.—The following extracts from the report of the School Medical Officer for 1920 states the position with regard to the hygienic conditions of the schools of the City.

ENQUIRY INTO HYGIENIC CONDITION OF SCHOOLS, 1909–20.

TOTAL NUMBER OF INSPECTIONS CARRIED OUT—414.						
CONDITION REPORTED UPON.	COUNCIL.			VOLUNTARY.		
	Good.	Fair.	Bad.	Good.	Fair.	Bad.
General Plan	159	74	35	40	67	39
Ventilation	189	53	26	78	30	34
Decoration	104	78	66	36	54	48
Lighting	199	59	8	72	53	19
Desks	213	39	11	66	51	25
Heating	231	22	3†	112	23	7†
Closets	219	32	17	72	48	11
Washbasins	191	32	24†	74	41	9†
Drinking Facilities ..	158	26†	66*	64	30†	29*
Cloak Rooms	142	78	23	42	57	34
Playgrounds	198	28	14	48	56	25

* Absent. † Insufficient.

NOTE.—The above figures extend over a considerable period. Suggestions for necessary improvements and alterations are made after each inspection.

“ Whilst the modern buildings are good, the rooms well-lighted and airy, the older premises leave much to be desired. In many

cases light is deficient owing to heavy stone transoms and mullions in the windows, which are not made to open—and the ventilation is thus limited.

“The buildings of Voluntary Schools, with one or two exceptions, do not compare favourably with those of the Council Schools in plan, lighting and general convenience.

“*Ventilation.*—The ventilation of the Schools has improved of late years, but is still far from satisfactory. Instructions have been issued from time to time to the teachers on this important matter. It appears from a consideration of the incidence of Infectious Disease and from inspections regarding the ventilation in the Schools, that Measles and other Infectious Diseases are most rife when the ventilation is inferior.

“*Lighting.*—It has been found that in those Schools where there is an insufficiency of daylight, the number of cases of defective eyesight is greater than in the better-lighted buildings.

“*Warming.*—The Schools have been found to be satisfactorily heated, with one or two exceptions ; attention has been drawn to these exceptions and the conditions have been improved.

“*Sanitation.*—Trough closets are still in existence in a number of Schools, but the sanitary arrangements are being modernised as opportunity offers. In one outlying School the pail system remains, and in another the inclined slab and earth closet still exist.

“*Washing and Drinking.*—Washing and drinking facilities are generally satisfactory. There is an ample supply of basins and towels, and soap and drinking mugs are provided.

“*Schoolrooms and Cloakrooms.*—There is a tendency in many classrooms to overcrowd the walls with pictures, drawings, &c. whilst a few pictures can do little harm as dust collectors, the presence of various paper ornaments on the walls is inadvisable. The majority of the cloakrooms are satisfactory ; some however are badly situated and dark ; ventilation in cloakrooms is uneven—it should be free and permanent.

“*Arrangement for Drying Clothes.*—To some extent radiators in the cloakrooms are used to dry the children’s clothes, but this plan is not generally adopted.”

FOOD.

Milk.—A special Sub-Committee was appointed by the Health Committee to investigate the milk supply of the City from the point of view of quality and sufficiency. This Committee resolved itself into a commission of enquiry. Witnesses were examined representing the farmer or producer, the wholesale and retail dealers, the consumer, the Department of Agriculture of the University and large public institutions where the quantity of milk consumed is considerable. A mass of valuable information was collected which ought to be of the greatest service in any future investigation or enquiry into the milk supply of the City. From the evidence there emerged two important conclusions ; (1) that generally speaking the conditions under which milk for human consumption is produced are altogether unsatisfactory and in themselves constitute a grave menace to health ; and (2) that without further Parliamentary powers Local Authorities are impotent to bring about any reform or indeed to do anything to protect the people from the evil effects which accrue from the consumption of contaminated milk.

The Grading of Milk.—As an attempt to safeguard the consumer a system of milk grading has been adopted in some countries, notably the United States of America, and to a limited extent the British Government has adopted the same policy. The object is to introduce milk of a high standard of purity to the public at a cost sufficiently high to be remunerative to the farmer in the hope that by so doing in time the inferior quality will be eliminated and a new race of “super-farmers” and “super-dairymen,” who will eschew filth and cleave unto cleanliness, will arise. I have no such faith. The policy of grading to my mind is wrong because it is based on entirely false premises. Those who suffer most from the drinking of impure milk are the working classes, many of whom are finding it hard enough at the present price to purchase sufficient milk to meet the needs of their families. How then will they afford the higher price demanded for graded milk ? It is perfectly evident that they will make no attempt to afford it but will continue to buy the inferior

article because it is cheap. Hence the grading of milk whilst it may undoubtedly benefit the children of the rich will leave the children of the poor no better off than at present, and the careless and indifferent farmer will be fortified in his dirty habits. There ought to be one grade of milk, and one grade only, for human consumption and that the first grade, and there ought to be no difference in the price of milk to the consumer whether he live in Headingley or Holbeck. Thus the erection of a milk barrier betwixt the various classes of the community would be avoided and the producer would understand that unless his product were up to standard it would be denied a market.

Cows and Cowsheds.—The total number of cowsheds in the City is 130 and during the year the Veterinary Inspector made 334 inspections of these for the purpose of determining their cleanliness and general sanitary condition. He reported that 6 were very dirty, 56 dirty, 253 clean, and 19 were closed at the time of his visit. The number of cows inspected was 2,160 and the number of examinations of cows made was 4,605; these examinations revealed 503 cows dirty, 4,102 cows clean, and 27 cows and 1 bull diseased. Two of the diseased cows were suffering from tuberculosis of the udder whilst five cows and the bull showed definite symptoms of tuberculosis in other parts of the body. The remaining 20 cows were reported as suffering from diseases other than tuberculosis.

In addition the Veterinary Inspector paid 130 visits to cowsheds outside the City and examined 2,162 cows. He reported one cow to be suffering from tuberculosis of the udder, two cows from tuberculosis of other organs, and three from diseases other than tuberculosis. As to the cleanliness of the cows, 962 were clean and 1,200 dirty; the sheds were clean in 40 and dirty in 163 instances.

Generally speaking great improvement was noticeable in the cleanliness of the cowsheds in the City during the year but the ideal in this respect will never be realised until wider Parliamentary powers are granted. At present the dirty farmer aware of its impotence simply ignores the strictures passed by the Local Authority on his methods and treats any advice or instruction given with profound contempt.

The following is a summary of the work done by the Food and Drugs Inspectors in connection with the milk supply.

Visits to milkshops	1,180
Visits to cowsheds	578
Visits to railway stations	457
Farms or milkshops visited <i>re</i> infectious disease..	59
Number of milk retailers in City	436
Number of cowsheds in City	130
New cowsheds built	1
Cowsheds improved or reconstructed	4

Milk and Food Analysis.—The subjoined tables set out the number of samples of milk and other foods taken during the year and examined by the City Analyst, with information as to quality and composition and results of Court proceedings.

SAMPLES OF FOOD SENT TO THE CITY ANALYST FOR
EXAMINATION DURING 1920.

Article.	Genuine.	Adul- terated.	Total.	Taken formally.		Taken informally.	
				Genuine.	Adul- terated.	Genuine.	Adul- terated.
Milk.. .. .	301	53	354	288	47	13*	6
Condensed Milk ..	2	..	2	..	..	2	..
Human Milk ..	1	..	1	..	..	1	..
Preserved Cream ..	3	..	3	..	..	3	..
Butter	13	2	15	12	1	1	1
Lard	9	..	9	5	..	4	..
Tea	5	..	5	5	..	..	..
Beer.. .. .	5	..	5	5	..	..	..
Prescriptions ..	3	..	3	..	..	3	..
Malt Vinegar ..	3	..	3	3	..	..	..
Pepper	4	..	4	4	..	..	..
Baking Powder ..	2	..	2	..	..	2	..
Oatmeal	2	..	2	2	..	..	..
Epsom Salts ..	2	..	2	..	..	2	..
Yorkshire Pudding Powder	2	..	2	1†	..	1	..
Whiskey	5	..	5	5	..	..	..
Cream of Tartar ..	1	..	1	..	..	1	..
Rum	1	..	1	1	..	..	..
Port Wine	1	..	1	..	..	1	..
Claret	1	..	1	..	..	1	..
Polony	1	..	1	..	..	1	..
Camphorated Oil ..	1	..	1	1	..	..	..
Flowers of Sulphur	1	..	1	..	..	1	..
Honey	1	..	1	..	..	1	..
Jam	1	..	1	..	..	1	..
Egg Yolk	1	..	1	..	..	1	..
Calf's Foot Jelly ..	1	..	1	..	..	1	..
TOTAL	373	55	428	332 48		41 7	
				380		48	

* One contained boric acid.

† Infested with mites, and the Analyst declared it unfit for human consumption.

SUMMONSES ISSUED DURING 1920, UNDER THE SALE OF FOOD
AND DRUGS ACT.

No. of Sampl	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
32	Milk ..	5% added water	1 0 0	retailer.
60	Do. ..	6·5% do. .. ..	..	do.; to pay 4s. 6d. costs.
95	Do. ..	8% do. .. ..	..	do.; to pay 15s. costs.
103	Do. ..	7% added water, 5% fat deficient	3 0 0	retailer.
123	Do. ..	7·5% added water ..	..	do.; withdrawn. See No. 125 and 126.
125	Do. ..	9% added water, 7% fat deficient .. ..	..	} farmer; to pay 19s. 6d. costs. } same farmer; to pay 15s. 6d. costs.
126	Do. ..	12% added water .. ..	..
127	Do. ..	11% do.	5 0 0	
128	Do. ..	5% added water, 15% fat deficient .. ..	..
159	Do. ..	7·5% added water	1 0 0	retailer.
178	Do. ..	11% do.	3 0 0	do.
			£ 13 0 0	

Guinea Pig Tests.—In addition to those submitted to the City Analyst, 166 samples of milk were sent to the Medical School for examination for the presence of the tubercle bacillus. Of these, 3 (or 1·8 per cent.) were reported positive and the remainder, 163 (or 98·2 per cent.) negative. Two of the positive samples were from milk imported into the City and the third from milk produced in a town shed. The farm outside the City from which the infected milk was consigned, was visited, and a cow was found suffering from tuberculosis of the udder. The owner voluntarily agreed to have the animal slaughtered, and a post-mortem examination of the carcase confirmed the diagnosis. The City farmer whose milk was found to contain the germs of tuberculosis, was fined 40s. for failing to notify the Public Health Authority that he had in his possession a cow suffering from disease of the udder.

Milk and Cream Regulations.—All samples of milk taken were examined for boric compounds or other preservatives. One informal sample sent by a householder was found to contain boric acid, but none was found in subsequent formal samples taken from the same source. Three samples of preserved cream were taken informally, and all were found genuine.

Milk (Mothers and Children) Order, 1919.—The distribution of milk, under the Milk (Mothers and Children) Order, is dealt with on pages 92 and 93.

Milk dealers who supply milk for mothers and children under the above-mentioned Order, are systematically inspected at intervals by the Food and Drug Inspectors, who report as to the cleanliness and suitability of premises, utensils, &c., and also as to the quality and cleanliness of the milk.

Meat.—An important feature of the year was the removal of the restrictions imposed on the meat trade under the Food Control Regulations. The immediate effect of this was to restore to use most of the private slaughter-houses, which during the control period had been idle. A large amount of work was entailed in getting these premises into a proper condition of repair and cleanliness. A copy of the Bye-laws was given to each slaughter-house occupier, and by the end of the year conditions were greatly improved and in a fair way to becoming satisfactory in all respects.

Private Slaughter-houses.—With very few exceptions, the private slaughter-houses are occupied by traders whose shops are situated in the same neighbourhood and, as a rule, only animals of good quality are dealt with, but a regular system of inspection is necessary in order to prevent irregularities. The fact that the private slaughter-houses are conducted in a satisfactory manner and are generally speaking clean and sanitary must not be accepted as

SLAUGHTER-HOUSES IN USE.

	1914.	January, 1920.	December, 1920.
Public Abattoir	2	1	1
Private slaughter-houses (registered)	63	63	63
Do. (licensed)	10	8	8
Knackers' Yard	2	2	2

There were 7,890 visits paid to slaughter-houses and 8,650 visits to markets, shops and stations.

an argument in their favour. I am still strongly impressed with the need for their abolition and the provision of adequate accommodation in the Public Abattoir, where all meat intended for the use of man can be examined and kept under observation. No system of meat inspection can be considered complete or satisfactory so long as private slaughter-houses exist. The situation of many of these private slaughter-houses in densely populated areas of the City is such as to compromise the quality and cleanliness of the meat, as well as to add to the difficulties of control.

Meat Inspection.—The quality of cattle arriving in Leeds for slaughter has shown a marked improvement since control was removed. Under the Food Control Regulations cattle were consigned to Leeds from a wide area, embracing the West Riding and Lancashire, and extending as far north as Westmoreland. The result was to make it very difficult to prevent the importation of diseased animals, and quite a number of such animals were constantly arriving at the various depots, only to be declared unfit for food and destroyed. With a free market and a smaller area of supply, all that has gone, and it is comparatively rare now that one comes across a diseased animal. The quality of home-killed meat of all kinds during the year has been exceptionally good, as also has that of imported frozen meat. The cold stores in New York Street, which were packed with reserves of Government meat, have now been cleared and are again available for the use of local butchers.

The large quantity of rabbits, poultry, vegetables, fruit, &c., condemned and destroyed, indicate that not only meat but other foods of a perishable nature are carefully supervised. Kirkgate Market, the main distributing centre, is regularly inspected each day, and it has now become a universal practice for traders receiving unsound food to communicate with the food inspectors without delay and receive their instructions for its disposal.

The market is patrolled by an inspector regularly every Saturday night, and one inspector is on duty every Sunday morning, visiting those shops which are open, as well as those private slaughter-houses where pig slaughtering is carried on.

The work of the meat inspectors is shown in the following table :—

MEAT, ETC., DESTROYED BY CONSENT.

	1920.	1919.	1918.	1917.
Beef	175,689 lbs.	224,620 lbs.	186,852 lbs.	72,960 lbs.
Veal	2,624 „	6,239 „	7,185 „	2,384 „
Mutton	76,264 „	36,383 „	9,496 „	5,874 „
Bacon and Ham..	1,955 „	1,642 „	18,793 „	2,123 „
Pork	4,106 „	5,848 „	3,032 „	3,179 „
Offals	21,457 „	20,713 „	12,520 „	12,804 „
Horse Flesh ..	600 „	3,672 „	3,496 „	..
Rabbits	66,893 „	37,229 „	17,927 „	8,458 „
Poultry	1,608 „	3,278 „	841 „	635 „
Game	220 „	198 „	78 „	..
Eggs	93,060	77,235	1,738	2,000
Cheese	12 lbs.	2,469 lbs.	34 lbs.	70 lbs.
Fish	129,452 „	176,955 „	87,602 „	37,254 „
Shellfish	57,057 „	27,409 „	23,552 „	24,218 „
Oysters .. ..	..	..	4,000	2,000
Fruit	15,151 lbs.	19,671 lbs.	1,904 lbs.	7,062 lbs.
Dried Fruit ..	..	700 „	..	..
Dates .. ..	..	15,867 „	..	..
Vegetables ..	64,860 lbs.	47,980 „	89,059 lbs.	49,943 lbs.
Inedible fungi ..	40 „	10 „	543 „	25 „
Edible fungi ..	40 „	332 „	..	..
Butter	3,789 „	5,401 „	6,886 lbs.	..
Margarine .. ..	..	4,480 „	512 „	..
Flour	700 „	140 „	13,162 „	..
Chocolate .. ..	..	..	100 „	..
Liquid Eggs ..	..	..	225 „	..
Yeast	2,240 lbs.	504 „	..	..
Groceries .. ..	..	2,796 „	..	..
Tinned Goods ..	10,918 lbs.	1,656 „	..	..
Sundries	280 „	51 „	..	..

In no case was any article destroyed that could safely be used as pig or poultry food, and substances containing fat were sent for treatment to tallow melting firms.

Tuberculous Carcasses.—The number of carcasses and parts of carcasses condemned for tuberculosis during 1920 was as follows : 137 carcasses of beef and organs, 1 carcass of beef without organs, 17 fore-quarters of beef and 1 carcass of pork and organs.

INFECTIOUS AND OTHER DISEASES.

A complete summary of cases notified of all the notifiable infectious diseases will be found in the Appendix (Table II.)

Influenza.—During February there was a slight increase in the number of notifications of acute influenzal pneumonia which apart from the death returns* afforded the only statistical information that could be obtained of the prevalence of influenza in Leeds. As in previous epidemics anti-influenza vaccine for prophylactic purposes was supplied free to medical men in the City on application. In all 50 medical practitioners wrote asking for supplies and the results so far as they could be ascertained from the use of this vaccine were satisfactory.

The deaths from influenza numbered 170, as compared with 623 in the previous year, and there were 99 cases of acute influenzal pneumonia notified. It is noteworthy that a large proportion of these cases occurred in districts of the city having a high degree of atmospheric pollution. Further comments will be made on this when discussing pneumonia.

Measles.—Reference was made in my last report to the commencement during the last quarter of 1919 of another epidemic of this disease.

From a study of the behaviour of measles in Leeds for the past thirty years, one finds that successive epidemic waves have followed generally, though not invariably, at intervals of two years, just giving sufficient respite for the reservoir of susceptible persons to refill. Happily the 1920 epidemic was of a mild type and did not effect the death-rate to any large extent.

Compulsory notification of this disease which together with German Measles came into force in 1915 terminated on December 31st, 1919. It was left, however, to the option of Local Authorities to return measles as a notifiable disease, and Leeds was one of the Authorities which took advantage of this option, and on March 3rd, 1920, Parliamentary sanction was given to this decision in a special Order in Council. To have adopted any other course than that decided upon by the Health Committee and City Council would have been short-sighted and retrograde policy because of the incalculable benefit notification confers both on individual sufferers and on the community as a whole, for through its agency preventive measures are possible and these measures applied early undoubtedly mean the saving of many lives.

MEASLES.

Year	Deaths	Death-rate LEEDS.	Death-rate England and Wales.
1910	160	0·36	0·23
1911	78	0·18	0·36
1912	159	0·36	0·35
1913	108	0·23	0·28
1914	218	0·48	0·24
1915	78	0·17	0·43
1916	149	0·33	0·15
1917	277	0·63	0·30
1918	417	0·98	0·28
1919	48	0·11	0·10
1920	148	0·33	0·19

AGES AT DEATH FROM MEASLES.

1920	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of Deaths	30	51	18	23	10	16	—	148

The public do not yet realise the complete significance of measles as a disease of childhood. Whilst the mere mention of scarlet fever or diphtheria is enough to create a panic in some minds, measles is treated with a levity which is almost criminal when one considers all that the disease means to some children—blindness, deafness, deformity, tuberculosis of one or other part of the body, chronic invalidism, death.

The total number of cases notified during the year was 5,523 of which the bulk were received during the first quarter, and the

total number of deaths recorded was 148, giving a death-rate of 0·33 and a case mortality rate of 26·80, as compared with 0·11 and 18·43 for 1919 which was a non-epidemic year.

Eighty-nine per cent. of the deaths occurred in persons under the age of five years and only 11 per cent. over that age. It is highly important, therefore, that infants should be protected as far as possible from the disease and not, as is too often the case, wilfully exposed to risks of infection. The proper isolation of cases in families where there are young children and the intelligent anticipation of an attack would do much to reduce not only the actual number of cases, but also the mortality.

WHOOPING COUGH

Year.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1910	150	0·34	0·24
1911	147	0·33	0·21
1912	54	0·12	0·23
1913	94	0·20	0·14
1914	141	0·31	0·21
1915	158	0·34	0·21
1916	45	0·10	0·16
1917	69	0·16	0·13
1918	130	0·30	0·29
1919	66	0·15	0·07
1920	100	0·22	0·11

AGES AT DEATH FROM WHOOPING COUGH.

1920	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of deaths	31	29	17	12	7	3	1	100

Whooping Cough.—There was a slight increase in the number of deaths from this disease as compared with last year. Ninety-six per cent. of these deaths occurred in children under the age of five years. What has been said in regard to measles applies with equal force to whooping cough. The two diseases are close allies and are frequently prevalent at the same time. I hope that the time is not far distant when vaccination against this disease will be as freely available as anti-smallpox vaccination is at the present day and that it will be attended with the same success. The total deaths recorded from whooping cough were 100 and the death-rate 0·22.

Scarlet Fever.—The cases of this disease notified in 1920 numbered 1,363, being a slight increase on the figure for last year (1,340) and an increase of 158 on the average of the previous ten

SCARLET FEVER.

Year.	Cases.	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1910	1,749	41	0·09	0·06
1911	1,633	45	0·10	0·05
1912	1,227	40	0·09	0·05
1913	1,311	15	0·03	0·06
1914	1,346	30	0·07	0·08
1915	1,454	30	0·07	0·06
1916	881	23	0·05	0·04
1917	543	7	0·02	0·02
1918	570	19	0·04	0·03
1919	1,340	23	0·05	0·03
1920	1,363	17	0·04	00·4

years (1,205). As will be seen from the table, 1916, 1917 and 1918 were years of remarkably low prevalence and compare in this respect most favourably with the preceding quinquennia, but the numbers rose again in 1919 and as already shown continued to increase during 1920. The death-rate, however, has not increased to a corresponding degree. In 1919 it was 0.05 and in 1920, 0.04 as compared with a average of 0.06 for the decennium 1910-1919. The case mortality was 12.47 per thousand.

Of the cases notified 1,244 (or 91 per cent.) were treated in the City Fever Hospital, Seacroft. There is no difficulty in getting parents to consent to the removal of their children to the Hospital, indeed they have come to look upon it as a thing inseparable from the disease, and with the overcrowding which exists in the houses of the people at the present time one is glad that it is so. An attack of "the fever" is not always an evil, indeed in many cases it is a real blessing, and not a few victims of the disease return to their homes, after residence in hospital with their general health much improved.

Diphtheria.—The facilities which now exist for the early diagnosis and treatment of this disease have gone a long way to reduce the high mortality formerly associated with it. The actual case mortality was 7.2 per cent. last year as compared with about 40 per cent. prior to the introduction of anti-toxin. Although there has been such a decrease in the death-rate, not the same success has attended the efforts to reduce the actual number of cases. The reason for this failure is largely the difficulty of controlling "carriers." Much more attention requires to be paid to prophylaxis, by which is meant the protection of persons who have been in actual contact with a case, by inoculating them with the anti-serum. This would mean a certain amount of expense, but any expenditure in this direction would be more than compensated for by the fewer cases requiring hospital treatment. In any event, it is very important that suspected cases and contacts should have a bacteriological examination made of their throats in order that treatment may be instituted at the earliest possible moment in those cases where the disease is in process of becoming established, or where the infection exists without giving rise to symptoms.

The number of cases notified was 885, as compared with 811 for the previous year, and the death-rate was 0.14, as compared

DIPHTHERIA AND CROUP.

Year.	Cases	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1910	948	74	0.17	0.12
1911	1,165	154	0.35	0.13
1912	705	95	0.21	0.11
1913	880	89	0.20	0.12
1914	700	59	0.13	0.15
1915	402	51	0.11	0.15
1916	423	40	0.09	0.14
1917	549	60	0.14	0.13
1918	542	47	0.11	0.14
1919	811	43	0.10	0.13
1920	885	64	0.14	0.15

with 0.10 in 1919. Although the death-rate shows a slight increase over that for last year, it is again below the corresponding rate for England and Wales, which is 0.15 for 1920. Of the total cases notified, 88.2 per cent. were treated at the City Hospital, Seacroft.

Smallpox.—For the fifth year in succession there were no cases of smallpox notified in the City. During the last quarter of 1920, a small epidemic of the disease occurred near Manchester, and in consequence of this a request was issued to those concerned, asking for a special watch to be kept on all tramps and vagrants coming into the City from that district.

The epidemic in Glasgow, noted in my last report, was not entirely checked until the latter part of 1920, and affords a very good illustration of the influence of indifference, apathy and the open hostility of the people on results. The success of any

preventive measures, no matter what the disease, depends ultimately on the interest and co-operation of the community, and if that is withheld, failure is inevitable.

Vaccination.—The following extract from the interim report of the Medical Officer of Health of Glasgow, on the outbreak, is significant, and may serve alike to instruct and to warn :—

“ One hundred of the patients admitted to the smallpox hospital were children under 15 years of age, of whom 73 were unvaccinated. Of the 27 children who had been vaccinated in infancy, not one died, while 20 of the unvaccinated group died.”

It is estimated that not more than 40 per cent. of the children of the City have been vaccinated, and the measure of the failure of parents in this direction is the measure of the City's preparedness to resist attack.

Enteric Fever.—The number of cases of this disease notified in Leeds during the year was the lowest on record, as was also the total mortality. Two small outbreaks, traced in both instances to contaminated milk, were promptly and effectively dealt with and the danger averted by removal of the cause. The subjoined table shows the steady fall in the mortality from enteric fever during the last decade. The average rate for the past ten years was 0·04, and this year it is only 0·01.

Erysipelas.—Notifications were received of 254 cases of this disease, and 15 deaths were attributed to it, being an increase of six deaths over those recorded in the previous year.

Puerperal Fever.—There were 56 cases notified of which 30 (or 53·6 per cent.) were in the practice of midwives and the remainder, 26 (or 46·4 per cent.), in the practice of doctors or in institutions. The deaths recorded numbered 29, which is equal to a death-rate per 1,000 of the population of 0·06, as compared with 6 and 0·01 respectively in 1919.

The enormous rise in the number of births in 1920, and the consequent increase in the number of women exposed to the dangers and complications attendant on childbirth, will be found to account for the greater number of deaths recorded from this

ENTERIC FEVER.

Year.	Cases.	Deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1910	104	21	0·05	0·05
1911	119	22	0·05	0·07
1912	65	18	0·04	0·04
1913	85	19	0·04	0·04
1914	84	23	0·05	0·05
1915	106	21	0·05	0·04
1916	48	9	0·02	0·03
1917	37	7	0·02	0·03
1918	42	5	0·01	0·03
1919	33	8	0·02	0·01
1920	29	4	0·01	0·01

CASES OF ENTERIC FEVER MONTH BY MONTH.

Jan.	Feb.	March	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1	3	5	4	2	—	2	3	5	1	2

disease. Breach of the rules of asepsis and gross carelessness on the part of the accouchers or their assistants, unwarranted interference by unskilled persons and bad home conditions, undoubtedly account for many cases. But explain it how one will, one cannot but deplore this grave increase of a death-rate which ought ere now to have ceased to exist. It is a grave reproach on those who practise obstetrics in the City, and one which I hope will be removed.

Encephalitis Lethargica.—Eight cases of this disease were notified during the year and a fatal result ensued in one of them. Four were still ill at the end of the year. In no single case reported was there any evidence of the disease having been acquired by contact with another sufferer. It appears, therefore, to be a disease of very low infectivity, if indeed it is transmissible by the ordinary routes. Until further information is forthcoming as to its origin, however, it is important that it should be looked upon and treated as an infectious disease, and all reasonable precautions taken against its spread.

Acute Anterior Polio-Myelitis.—Two cases were notified both of which recovered without permanent paralysis.

Cerebro-Spinal Meningitis.—Five sporadic cases of this disease occurred in Leeds during the year and four of them (or 80 per cent.) died. Three of the five cases were nursed in hospital, but the other two succumbed within a few hours of the onset and before any arrangement could be made for their segregation. The diagnosis in each of the hospital cases was confirmed by bacteriological examination. Success in the treatment of this disease depends entirely on the stage at which the specific remedy is applied. The delay of a few hours may be sufficient to decide the case against recovery.

Malaria, Dysentery and Trench Fever.—These diseases were made compulsorily notifiable by medical practitioners as from March 1st, 1919. This notification has been of great assistance to Sanitary Authorities in taking measures to check the spread of infection by persons returning from overseas, the majority being demobilised soldiers who have contracted these illnesses abroad. Eighteen cases of malaria, 3 of dysentery and 1 of trench fever were notified in Leeds in 1920, and in every instance the disease was acquired whilst on military service. One death from dysentery and one from malaria were reported from an institution in Leeds.

Ophthalmia Neonatorum.—From the aspect of prevention it is doubtful if the true significance of this disease of the eyes of newborn infants is yet fully appreciated by doctors and midwives. That the treatment prescribed by medical practitioners and institutions is highly successful in curing the disease before the sight has been permanently damaged cannot be doubted. But that is not

enough. The parent or parents who are the source of the infection should also be treated if other cases are to be avoided and the community protected. It is futile to restrict one's attention to the child only, and the occurrence of a second case in the same family is a grave reflection on the profession of medicine as well as a sad commentary on the progress of preventive principles.

There were 141 cases of the disease notified during the year as compared with 105 last year, an increase of 34 per cent. Of these, 102 cases occurred in the practice of midwives and 39 were doctors' cases. The number treated at home or as outpatients at one or other of the institutions was 107 and as in-patients 34. Of the latter number, seven were treated in the beds reserved by the Health Committee for this purpose at the Maternity Hospital. May I once more remind medical practitioners in the City that any case of this disease occurring in their practices which cannot be satisfactorily treated at home can be admitted to one of these beds. When admitting a case it is desirable that the mother should accompany the child in order that she may be treated also.

The subjoined table gives full particulars of the results of treatment.

DAY OF ONSET FROM BIRTH.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	10th-15th	15th-20th	20th-25th
No. of Cases	7	5	17	17	10	8	14	20	10	6	17	6	4

The result of treatment was as follows :—

Recovery apparently perfect	..	..	120
Recovery not perfect ..	..	..	5
Sight of both eyes affected	..	..	—
Still under treatment	..	..	2
Died .. .. .	..	..	8
Result not known owing to removal	..		6

Diarrhœa and Enteritis.—In spite of the fact of the high birth-rate, and in consequence the much larger susceptible population, the total number of deaths recorded from diarrhœa and enteritis

DIARRHŒA AND ENTERITIS DEATHS UNDER TWO YEARS FROM
1911 TO 1920, WITH RATES PER 1,000 BIRTHS.

Year.	Deaths.	Rate per 1,000 Births.	
		Leeds.	England and Wales.
1911	578	54·7	44·0
1912	114	11·1	9·1
1913	339	31·2	24·2
1914	287	26·9	21·1
1915	282	28·6	18·9
1916	214	22·7	13·1
1917	171	22·6	12·8
1918	146	19·8	11·7
1919	140	18·5	10·2
1920	140	12·5	8·3

The 140 deaths from diarrhœa and enteritis were of children aged as follows :—

Under one month ..	26	6-9 months ..	14
1-3 months	35	9-12 months ..	11
3-6 months	41	1-2 years ..	13

The incidence of diarrhœa month by month is shown in the small table.

DEATHS, TEMPERATURE AND RAINFALL IN EACH MONTH OF YEAR.

1920.	Jan.	Feb.	Mar.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Deaths	7	6	9	9	8	17	4	13	28	17	14	8	140
Temperature °F.	43.19	43.88	47.04	48.31	56.06	60.62	59.94	60.23	57.65	52.58	45.92	42.69	51.55
Rainfall (inches)	3.04	1.66	2.43	3.44	1.62	3.54	3.50	1.55	1.42	1.33	1.21	3.33	28.07

under two years of age was exactly the same as 1919. The cold weather experienced in July and August when diarrhoea is usually most fatal was undoubtedly partly responsible for the low incidence, but due credit must also be given to the increased knowledge of infant feeding and child welfare which is being inculcated into parents by the various organisations engaged in Maternity and Child Welfare Work. The death-rate under two years from this disease is now being computed with relation to the number of births during the year and not on the total population as was formerly the custom. This method affords a much more equable basis for comparison of the rates from year to year and between one district and another. It will be seen from the table appended that there has been a steady drop in this rate during the past eight years both in our city and in England and Wales generally. It is very gratifying to note that whilst the Leeds rate this year has been reduced by 32·4 per cent. under that of last year the corresponding rate over England and Wales for the same period has decreased only 18·6 per cent.

Bronchitis and Pneumonia.—The actual number of deaths from these diseases shows little variation from the figures recorded last year, and this notwithstanding the fact that influenza was not so prevalent in 1920. On the other hand there was a wide-spread epidemic of measles during the first quarter of the year, and this disease, which is really a respiratory disease, frequently leads to bronchitis and broncho-pneumonia as complications. It is important to note that approximately one-fifth of the total deaths from these diseases occur in infants under the age of one year.

Influence of atmospheric pollution.—An investigation into the infantile mortality from respiratory diseases in our own City discloses the fact that it is much higher in some wards than in others. The wards in which it is highest are those in which the atmospheric pollution is most marked, partly owing to the industrial smoke and fumes and partly owing to the density of houses and persons per acre and the inadequate provision for the ventilation of houses and streets. A comparison of the three best and the three worst wards, from the point of view of atmospheric pollution, shows that the respiratory mortality of infants in the latter is 200 per cent. higher than in the former. The increased susceptibility of persons of all ages in industrial towns to respiratory disease is

BRONCHITIS.

Year	Deaths.	Rate per 1,000 Population.
1910	541	1.22
1911	559	1.26
1912	576	1.29
1913	647	1.39
1914	539	1.18
1915	738	1.61
1916	620	1.39
1917	646	1.47
1918	653	1.53
1919	741	1.72
1920	625	1.39

AGES AT DEATH FROM BRONCHITIS.

1920	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	115	19	15	6	4	28	152	286	625

PNEUMONIA.

Year.	Deaths.	Rate per 1,000 Population.
1910	608	1.37
1911	612	1.38
1912	479	1.07
1913	585	1.26
1914	610	1.33
1915	725	1.58
1916	586	1.31
1917	565	1.29
1918	768	1.80
1919	560	1.30
1920	622	1.39

AGES AT DEATH FROM PNEUMONIA.

1920	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	130	73	56	31	19	101	129	83	622

a well-known fact, and this is particularly noticed in infants and young children. Is it not self-evident that one factor in this is the excessive strain thrown on the respiratory mechanism by the inhalation of air which is loaded with soot, dust and other impurities? The abolition of the smoke nuisance is one of the first steps which will lead to a reduction in the number of diseased conditions of the lungs, as well as deaths which follow from this cause. Where plant life fails to exist because of the blight, it is impossible for the delicate human organism to escape some damage.

With the exception of acute primary pneumonia and acute influenzal pneumonia, respiratory diseases are not notifiable. There were 285 cases of the former and 99 of the latter notified in 1920, the heaviest incidence of both being between the ages of 25 and 45 years. Advantage is taken of this notification to

CANCER.

Year.	Deaths.	Rate per 1,000 Population.
1910	397	0·90
1911	423	0·95
1912	430	0·96
1913	525	1·13
1914	457	1·00
1915	521	1·13
1916	500	1·12
1917	535	1·22
1918	500	1·17
1919	575	1·33
1920	492	1·10

have the homes of the sufferers visited, and in any cases where the home conditions are found to be unsuitable, an attempt is made to have the patient removed to an institution for treatment. As has already been stated, pneumonia is a disease which cannot be successfully treated in small, crowded and ill-ventilated dwellings. Hospital accommodation is sorely needed for these cases.

For deaths from pneumonia, see table on page 55.

Cancer.—The total deaths recorded from this cause in 1920 was 492, giving a death-rate of 1·10 per 1,000 population. Both these figures are a slight improvement on those of last year. We are still without any definite information as to the cause of this disease, but it is hoped that the mass of experimental work that is being carried out will soon prove fruitful.

HOSPITAL FOR INFECTIOUS DISEASES.

Leeds possesses a large modern infectious diseases hospital (Seacroft Hospital), capable of accommodating 489 cases of infectious diseases of all types, exclusive of smallpox. The staff consists of a medical superintendent, two assistant medical officers, matron, 4 assistant matrons, 102 nurses, 72 female servants and 43 male servants, including engineers, porters, &c.

Smallpox cases are provided for at new and old Killingbeck (180 beds), which are at present being used for the treatment of tuberculosis. A small emergency smallpox hospital of 20 beds has been erected on the Killingbeck estate, and is kept in readiness for the reception of any sporadic cases of the disease which may occur. In the event of an outbreak of any size occurring, it would be necessary to evacuate the buildings now used for the treatment of tuberculosis and restore them to the use for which they were originally built.

The work of Seacroft Hospital, for the year 1920-1921, is given in the table on page 58.

Seacroft Hospitals and Isolation Cottages for Contact Cases.

ABSTRACT FROM REGISTERS.

	Small Pox.	Measles..	Scarlet Fever.	Diph- theria.	Typhus.	Enteric Fever.	Pneu- monia.	Inf. Diarr.	Other Diseases.	Cottages for Contacts.	Total.
Patients remaining in Hospitals and Isolation Cottages, on Saturday, April 3rd, 1920	..	20 (1)	185 (129)	124 (72)	..	3 (1)	1 (1)	..	30 (13)	..	363 (217)
Admitted from April 4th, 1920, to April 2nd, 1921 (52 weeks)	..	20 (88)	1,199 (1,392)	680 (891)	..	19 (25)	11 (14)	21	198 (258)	4 (33)	2,152 (2,701)
Total treated	40 (89)	1,384 (1,521)	804 (963)	..	22 (26)	12 (15)	21	228 (271)	4 (33)	2,515 (2,918)
Discharged	38 (60)	1,217 (1,308)	681 (795)	..	16 (20)	6 (9)	16	202 (216)	4 (33)	2,180 (2,441)
Died	2 (9)	11 (28)	42 (44)	..	3 (3)	6 (5)	5	18 (25)	..	87 (114)
Patients remaining in Hospitals and Isolation Cottages, on Saturday, April 2nd, 1921 (20)	156 (185)	81 (124)	..	3 (3)	.. (1)	..	8 (30)	..	248 (363)

NOTE.—Bracketed figures are the corresponding figures of the previous year (53 weeks).

AMBULANCE WORK AND DISINFECTION.

Ambulances.—At present the City possesses two motor ambulances, but the number does not give an adequate service, as when one is out of commission, as is regularly the case, an old horse ambulance has to be resorted to. A third ambulance has been requisitioned and will be put into commission shortly.

The following cases were removed by the ambulances to the City Hospitals, Seacroft and Killingbeck, during 1920 :—

Smallpox	—
Scarlet Fever	1,211
Diphtheria	787
Typhoid Fever	44
Tuberculosis	166
Other Diseases	168
<hr/>	
Total	2,376

In addition, 21 cases of Tuberculosis were conveyed to Armley House Sanatorium. Removals of cases from Seacroft and Killingbeck Hospitals to their own homes or to other institutions, numbered 66. Over and above these, 27 other journeys were made.

Disinfection.—The following work was done by the Disinfecting Staff :—

Houses disinfected	2,792
Rooms disinfected	6,261
Beds and mattresses disinfected	4,584
Articles of bed clothing disinfected	24,923
Articles of wearing apparel disinfected	49,946
Miscellaneous articles disinfected	9,175

Also 1,090 infected persons or contacts went, or were taken to one or other of the sanitary depots to have a disinfecting bath and disinfection of clothing carried out.

At the Sanitary Laundry at Beckett Street, 90,183 articles of bedding, clothing, etc., have been washed and disinfected.

Medicine bottles sterilized for the Tuberculosis Dispensary, 8,055.

BACTERIOLOGICAL WORK.

The following is a complete summary of the bacteriological work done for the Health Department by the Department of Bacteriology in the Leeds University Medical School, under the supervision of Professor Matthew Stewart, the City Bacteriologist.

GENERAL.

NATURE OF TEST.	NUMBER OF TESTS.
Swabs for diphtheria	1,786
Swabs for Vincent's angina ..	2
Sputum for tubercle bacilli ..	1,771
Sputum for tubercle bacilli (guinea-pig inoculation)	13
Pus for tubercle bacilli ..	10
Fæces for tubercle bacilli ..	3
Fæces for typhoid and paratyphoid bacilli	7
Urine for tubercle bacilli ..	8
Urine for typhoid and paratyphoid bacilli	5
Blood for agglutination (Widal) test	8
Milk for tubercle bacilli ..	164
(guinea-pig inoculation)	
Milk for diphtheria	2
Milk for bacterial content ..	1
Water do. do. ..	48
Blood for malaria	4
Blood for anæmia	1
Hair for ringworm	4
Mussels for bacteria	2
Cerebro-spinal fluid	1
Polony for bacterial enteritidis	1
TOTAL	3,841

VENEREAL DISEASE.

NATURE OF TEST.	NUMBER OF TESTS.
For detection of spirochetes— for treatment centre ..	74
for practitioner ..	—
For detection of gonococci— for treatment centre ..	866
for practitioners ..	246
For Wassermann reaction— for treatment centre ..	5,937
for practitioners ..	1,033
Other examinations— for treatment centre ..	3
for practitioner ..	1
TOTAL	8,160

VENEREAL DISEASES.

The work done in connection with this important branch of Public Health has again considerably increased. I regret that no further progress has been made with the building of the new venereal diseases block at the Leeds General Infirmary. Plans have been got out and revised time and again but always there has been something objectionable to one or other of the parties with whom lies the final decision. At present it is a question of expense which is holding things up but it is to be hoped that that difficulty will be surmounted in the near future. In spite of the total inadequacy and unsuitability of the present accommodation very excellent work has been and is being carried out, but I feel sure that increased attendance and a higher proportion of cures would result were the working conditions better.

Statistics.—The actual number of deaths recorded as due to syphilis was 76, an increase of 18 on the previous year. Admittedly this is a very inaccurate index of the actual mortality attributable to this disease. In its later stage syphilis attacks every tissue of the body and so undermines the resistance that the individual readily succumbs to secondary diseases which become grafted on to the weakened organism and pass into the death certificate as the primary causes of death. It is, therefore, impossible to gauge the extent to which syphilis is responsible for deaths from the mortality returns. There are two conditions of the nervous system which are now known to be late manifestations of the disease, namely, Locomotor Ataxy and General Paralysis of the Insane, and from these alone 46 deaths of Leeds persons were recorded during the year.

Work of Treatment Centre.—Of the total number of patients attending the Leeds Treatment Centre in 1920, 829 discontinued treatment before being pronounced cured. I can confidently assert that a very large proportion of these defaulters had not been rendered non-infectious to others and were therefore still capable of transmitting the disease to others. There is urgent need for Parliamentary powers to compel infected individuals to continue treatment until cure is effected. Methods of peaceful persuasion are useless so long as there are men and women who consider only themselves, and who are by their behaviour outside the pale of

TABLE I.

				1919.		1920.		Increase or decrease.	
				M.	F.	M.	F.	M.	F.
Syphilis ..	first cases	..	..	915	475	1,195	665	+280	+190
Soft chancre	..	..	..	32	..	..	..	- 32	..
Gonorrhœa	..	..	..	752	88	688	149	- 64	+ 61
Other diseases									
not Venereal	..	..	..	474	142	308	123	- 166	- 19
Total				2,173	705	2,191	937	+ 18	+232
Total attendances of all cases				23,285		35,000		+11,715	
Aggregate No. of In-patient days				606		406		- 200	
No. of doses of Salvarsan substitutes				7,067		18,330		+11,263	
Pathological specimens examined :—									
Spirochetes				141		74		- 67	
Gonococci				490		866		+ 376	
Other organisms				7		..		- 7	
Blood—Wassermann reaction				2,814		5,937		+3,123	

TABLE 2.

	Year 1919.	Year 1920.	Increase or Decrease.
Syphilis first cases	815	1,093	+ 278
Soft chancre	26	..	- 26
Gonorrhœa	621	603	- 18
Other diseases, not Venereal	423	330	- 93
Total	1,885	2,026	+ 141
Total attendances of all cases	14,987	22,840	+7,853
Aggregate No. of In-patient days	358	263	- 95
No. of doses of Salvarsan substitutes	4,322	12,151	+7,829
Pathological specimens examined :—			
Spirochetes	107	51	- 56
Gonococci	336	771	+ 435
Other organisms	5	2	- 3
Blood—Wassermann reaction	2,241	4,186	+1,945

decent society. The public have an elementary right to demand to be protected and where coaxing and argument fail then force should be applied.

The work of the treatment centre is shown in the accompanying tables. Table 1 gives the total number of cases dealt with during the year including those from contributory areas outside the City ; table 2 refers to Leeds cases only. It will be noted that there was an increase in the number of cases of syphilis.

Hospital Accommodation.—The Health Committee has continued the arrangements made by it with the Committee of Management of the Maternity Hospital and also the Hope Hospital. At the former institution, 15 beds and 5 cots are reserved for the treatment of pregnant women and nursing mothers suffering from venereal diseases and babies suffering from ophthalmia neonatorum. The latter institution is capable of accommodating twenty women and eight babies, and is devoted to the treatment of unmarried women, whether pregnant or not, who are infected with venereal disease. It is managed by a joint Committee of the Yorkshire Diocesan Association and the Health Committee. Both these institutions continue to render admirable service as well to the community as to the sufferers for whose benefit they exist. Details of the work carried out during the year will be found set out in the tables which appear on page 64.

Supply of Salvarsan Substitutes.—The number of medical practitioners in the area who were qualified to receive free supplies of salvarsan substitutes was 39 up to December 31st, 1920. The amount of salvarsan substitutes distributed to practitioners was 1,806 doses.

Pathological Work.—The extent to which practitioners have availed themselves of the facilities for pathological examinations provided by the Council is shown on page 60.

Administration of V.D. Act, 1917.—During the year two persons were prosecuted under the Venereal Diseases Act, 1917, and there was one conviction, the other case being dismissed.

Education and Propaganda.—It is only now when the conspiracy of silence on this subject is being overcome and when the searchlight is being turned on to the whole question that the nation

MATERNITY HOSPITAL, 42, HYDE TERRACE.

	Cases in residence on Jan. 1st, 1920.	Cases admitted.	Cases discharged.	Cases in residence on Jan. 1st, 1921.
Syphilis	1	68	65	4
Gonorrhœa .. ..	..	42	41	1
Syphilis and Gonorrhœa .. ..	..	21	20	1
Other disease .. ..	..	..	..	..
Total	1	131	126	6

Total days in residence 1,049
 No. of doses of Salvarsan substitute .. 203

Pathological specimens examined :—

Spirochetes
 Gonococci 32
 Other organisms
 Blood—Wassermann reaction.. .. 248

HOPE HOSPITAL, 126, CHAPELTOWN ROAD.

	Cases in residence on Jan. 1st, 1920.	Cases admitted.	Cases discharged.	Cases in residence on Jan. 1st, 1921.
Syphilis	2	10	10	2
Gonorrhœa	8	32	35	5
Syphilis and Gonorrhœa	9	24	26	7
Other disease .. ..	..	6	6	..
Total	19	72	77	14

Total days in residence 6,978
 No. of doses of Salvarsan substitute .. 314

Pathological specimens examined :—

Gonococci 158
 Blood—Wassermann reaction.. .. 101

is slowly awakening to a knowledge of this great social canker in its midst. In the adolescent, ignorance, lack of healthy recreation and an environment which is morally unhealthy are all factors against which a crusade must be waged. It must, however, be realized that there are in our midst a certain number of individuals to whom appeals to chastity fail and who do not respond to any social or moral influences. It is specially this class of person which stands in need of a solemn warning of the dangers of untreated venereal disease.

For propaganda and educational work on this subject, the local branch of the National Council for Combating Venereal Diseases is responsible. During the year there were three meetings of the Branch, nine of the Executive Committee, and three of the Finance Committee. A very successful public meeting was held in the Town Hall, in October, when addresses were given by Sir Malcolm Morris, K.C.V.O., Dr. C. J. Macalister and Mrs. Neville Rolfe (General Secretary of the N.C.C.V.D.). On the same afternoon a lecture for medical practitioners and students was given by Mr. Kenneth Walker, O.B.E. (Lecturer in venereal diseases, St. Bart's Hospital). The following day a branch conference took place in this City at which the future activities of the society were discussed. Numerous addresses have been given during the year to various social organizations and members of the general public, and the support has been obtained of eight additional bodies concerned with social and educational questions.

TUBERCULOSIS.

Statistics.—The notifications of pulmonary tuberculosis received during 1920 numbered 962 and of non-pulmonary 209 which in the case of the former is a decrease of 114 and of the latter an increase of 1 compared with the figures for the previous year, whilst they are a decrease of 136 and 74 respectively upon the average of the previous five years. Medical practitioners notified 904 cases, school medical officers 17, whilst 250 came from institutions. The number of cases of pulmonary tuberculosis heard of for the first time through the death returns of the local Registrars was 139, as compared with 128 for 1919 or 14·4 per cent. of the total number of notifications received during the year.

The following tables show the number of notifications of tuberculosis received during the year.

PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	2	9	88	121	135	124	85	38	16	618
Females ..	..	2	60	114	78	50	23	11	6	344
Totals ..	2	11	148	235	213	174	108	49	22	962

NON-PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	4	19	54	19	11	3	5	1	..	116
Females ..	4	12	37	17	12	4	5	..	2	93
Totals ..	8	31	91	36	23	7	10	1	2	209

It is a little difficult to understand why the number of non-notified cases remains so high. It suggests an amount of apathy on the part of the general medical practitioner which does him no credit and tends to prove the need for fostering the spirit of preventive medicine in the younger generation of medical men. It must be perfectly obvious that without knowledge of the existence of cases appropriate measures can not be taken either to help the individual to combat the disease successfully, or to prevent the spread of infection from him to other people. Hence because of the delinquencies of a few, discredit is brought not only upon the scheme but upon the whole profession of medicine.

The deaths from pulmonary tuberculosis numbered 552 which is equal to a death-rate of 1.23 per thousand of the population, just a little under the rate for last year which was 1.26. With regard to non-pulmonary tuberculosis the number of deaths was 146 which represents a death-rate of 0.33 per thousand of the population, a decrease of 0.08 on the figure for the previous year (0.41).

PULMONARY TUBERCULOSIS.

YEAR.	MALES.		FEMALES.		TOTAL.	
	Deaths.	Death rate.	Deaths.	Death rate.	Deaths.	Death rate.
1910	302	1.43	208	0.90	510	1.15
1911	346	1.64	212	0.91	558	1.26
1912	342	1.61	229	0.98	571	1.28
1913	336	1.53	221	0.90	557	1.20
1914	330	1.52	239	0.99	569	1.24
1915	386	1.78	265	1.09	651	1.42
1916	412	..	283	..	695	1.56
1917	378	..	296	..	674	1.54
1918	369	..	336	..	705	1.65
1919	295	..	247	..	542	1.26
1920	316	..	236	..	552*	1.23

* Of the 552 deaths, 211 occurred in Institutions.

PHTHISIS. DEATHS AT VARIOUS AGES.

1920.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	13	3	9	19	19	143	96	14	316
Females	6	6	15	32	39	88	39	11	236
TOTALS	19	9	24	51	58	231	135	25	552

PHTHISIS DEATHS IN WARDS.

WARD.	Deaths.	Rate per 1000 Population.	WARD.	Deaths.	Rate per 1000 Population.
Central ..	27	2·26	Mill Hill ..	6	1·18
North ..	36	0·86	West	26	1·38
North-East ..	66	1·75	North-West ..	39	1·33
New Ward ..	I	0·13	Brunswick ..	34	1·49
East	59	1·64	New Wortley	21	1·35
South	21	1·84	Armley and Wortley ..	38	1·03
East Hunslet	36	1·10	Bramley ..	20	0·83
West Hunslet	37	1·00	Headingley ..	42	0·86
Middleton* ..	I	..			
Holbeck ..	42	1·42	Total ..	552	1·23

* Added to Leeds April 1st, 1920.

Non-Pulmonary Tuberculosis.—The distribution according to site of disease, age and sex are given in the following tables.

NON-PULMONARY TUBERCULOSIS. DEATHS.

1920.	Tubercular meningitis.	Abdomin- al.	Bones and Joints.	Other tuber- culosis.	Total.
Males ..	35	15	14	19	83
Females ..	22	17	5	19	63
Totals ..	57	32	19	38	146

AGES AT DEATH.

Ages.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	37	11	9	9	5	8	4	..	83
Females	25	4	8	7	4	6	6	3	63
Totals ..	62	15	17	16	9	14	10	3	146

Taking the total deaths from all forms of tuberculosis the death-rate for 1920 was 1·56 per thousand of the population, a decrease of 0·11 on the figure for 1919 which was 1·67 and of 0·47 on the average death-rate for the previous five years. Progress is slow but it is gratifying and reassuring to know that it is in the right direction. *Spero meliora.*

The age groups chiefly affected appear in tables on pages 67 and 68.

There seems to be no doubt that much of the disease which appears in young children is the result of direct infection. This is a matter of very great concern and is one which demands serious consideration. The cause is the exposure of highly susceptible individuals to the risk of infection by constant contact—often under the worst conditions of life—with a case of active disease. How this is to be avoided is a very difficult problem particularly so when one is dealing with a large family in a small house. There are two alternatives, either to remove the source of infection from the child or to remove the child from the source. The former is a matter of some difficulty because it entails what practically amounts to compulsory segregation, whilst the latter is often impossible. The solution of the problem lies in raising the resistance of the individual to the disease and protecting him from the influence of such hurtful predisposing factors as overcrowding, poverty and neglect. The homes of the tuberculous should be large and roomy with open space all round and the local authority should have power to provide suitable dwellings for infective cases at low rentals, indeed where necessary free of rent. This would make it possible at little cost to remove cases from crowded and congested areas. Thus the health of the individual and his family would be benefited and the risk to the community minimised.

Institutional Treatment.—The scheme for the treatment of tuberculosis in Leeds includes two dispensaries and three sanatoria.

Dispensary.—The dispensaries are the Central Tuberculosis Dispensary belonging to the Corporation and the Great George Street Dispensary belonging to the Leeds Tuberculosis Association. The number of new cases of pulmonary tuberculosis treated at the former during the year 1920 was 928 and of non-pulmonary 363 as compared with 933 and 819 for the previous year. At the latter the number of new cases of both types admitted was 100.

Details of the cases treated at the Central Dispensary are set out in table on p. 70.

PATIENTS EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY FROM JANUARY 1ST TO DECEMBER 31ST, 1920.
PULMONARY TUBERCULOSIS.

		New patients.		Number bacteriologically positive.		Number clinically positive.		Number found not to be tuberculous.		Number recommended for Sanatoria.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		Insured	557	138	88	26	102	223	10	235	79
Non-insured		76	157	4	25	57	118	15	14	39	76

OTHER FORMS OF TUBERCULOSIS.

		New patients.		Glands.		Bones and joints.		Abdominal.		Others and indefinite.		Number recommended for Sanatoria.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Insured ..		107	41	10	11	15	2	7	2	75	26	34	5
Non-Insured		106	109	24	20	11	12	11	4	60	73	17	15

Total attendances of all cases :—Insured—	Males ..	31,883	Non-Insured—	Males ..	11,521
	Females ..	7,851		Females ..	8,190
	Total ..	39,734		Total ..	19,711

The number of contacts examined during the year was 224 of which 58 were definite cases, 115 were doubtful and placed under observation, whilst 51 were definitely negative.

The staff of the Central Dispensary consists of a chief clinical tuberculosis officer and an assistant and 12 nurses. The tuberculosis officers are responsible for the examination of all cases which attend the Dispensary for treatment as well as for the regular visitation of contacts and domiciliary cases for which expert advice or treatment is required. They also supervise the treatment of cases in the various sanatoria. The chief clinical tuberculosis officer is referee for doubtful cases occurring amongst pensioners. The nursing staff is engaged in carrying out systematic visits to the homes of cases whose names are on the Dispensary register. For this purpose the City has been divided up into 11 districts and each nurse has a district allotted to her. The duties inside the Dispensary are shared amongst the nurses. The work of the nurses is supervised by the assistant tuberculosis officer who regulates their time and examines their reports. One nurse is reserved for after-care work and devotes her attention entirely to the improvement of the social conditions of cases referred to her and to the supply of extra food and clothing where such are required. She attends meetings of the Care Committee and presents reports on cases referred to the Committee from time to time.

The School medical staff works in close co-operation with the Dispensary and cases discovered by them in the course of school medical inspection are regularly referred to the tuberculosis officers for examination and treatment.

Provision for the treatment of Children.—Three special sessions a week are reserved for children when contact cases and those referred by the school medical officers are seen.

Sanatoria.—Particulars of the work of two of the sanatoria appear in the subjoined tables. Unfortunately it has not been possible to get complete information concerning the cases treated at Gateforth but such information as has been available is given. The total number of cases treated at Gateforth was 194, the average stay of each case was 80 days. There were no deaths and the majority were discharged in a much improved condition of health. It may be explained here that Gateforth is run on farm colony lines and only first stage cases are admitted.

PULMONARY TUBERCULOSIS FOR YEAR ENDED
31ST DECEMBER, 1920.

KILLINGBECK SANATORIUM.	Males.		Females.		Total.
	Under 15	Over 15	Under 15	Over 15	
Remaining Dec. 31st, 1919	6	70	3	37	116
Admitted	23	289	35	169	516
Discharged	17	247	24	137	425
Died	5	56	2	27	90
Remaining Dec. 31st, 1920	7	56	12	42	117

Average length of stay, 74 days.

ANALYSIS OF CASES DISCHARGED.

KILLINGBECK SANATORIUM.	Males.		Females.		Total.
	Under 15	Over 15	Under 15	Over 15	
Disease arrested	10	109	15	34	168
„ improved	7	105	6	80	198
„ not improved .. ..	..	33	3	23	59
TOTALS	17	247	24	137	425

Restoration of working capacity—					Males.	Females.	Total.
100 per cent. approximately	..	..	..	..	65	25	90
80 „ „ „	..	..	..	..	84	54	138
60 „ „ „	..	..	..	..	28	21	49
40 „ „ „	..	..	..	..	29	19	48
20 „ „ „	..	..	..	..	25	16	41
10 „ „ „	..	..	..	..	..	..	..
TOTALS	..	..	..	..	231	135	366

NON-PULMONARY TUBERCULOSIS FOR YEAR ENDED
31ST DECEMBER, 1920.

KILLINGBECK SANATORIUM.	Males.		Females.		Total.
	Under 15	Over 15	Under 15	Over 15	
Remaining Dec. 31st, 1919	1	1	..	2	4
Admitted	7	12	5	7	31
Discharged	5	10	2	6	23
Died .. .. .	..	..	..	..	..
Remaining Dec. 31st, 1920	3	3	3	3	12

Average length of stay, 101 days.

ANALYSIS OF CASES DISCHARGED.

KILLINGBECK SANATORIUM.	Males.		Females.		Total.
	Under 15	Over 15	Under 15	Over 15	
Disease arrested .. ..	..	..	..	..	..
„ improved	5	8	2	6	21
„ not improved .. ..	..	2	..	..	2
TOTALS	5	10	2	6	23

Restoration of working capacity—				Males.	Females.	Total.
100 per cent. approximately	..			7	4	11
80	„	„	..	3	1	4
60	„	„	..	..	2	2
40	„	„	..	2	..	2
20	„	„	..	1	1	2
10	„	„	..	..	..	..
TOTALS .. .. .	..	..		13	8	21

PULMONARY TUBERCULOSIS FOR YEAR ENDED
31st DECEMBER, 1920.

ARMLEY HOUSE SANATORIUM.	Males.		Females.		Total.
	Under 15	Over 15	Under 15	Over 15	
Remaining Dec. 31st, 1919	..	27	..	..	27
Admitted	23	137	..	..	160
Discharged	23	115	..	..	138
Died .. .. .	..	9	..	..	9
Remaining Dec. 31st, 1920	..	40	..	..	40

Average length of stay, 93 days.

NON-PULMONARY TUBERCULOSIS FOR YEAR ENDED
31st DECEMBER, 1920.

ARMLEY HOUSE SANATORIUM.	Males.		Females.		Total.
	Under 15	Over 15	Under 15	Over 15	
Remaining Dec. 31st, 1919	..	..	..	..	..
Admitted	2	11	..	..	13
Discharged	1	9	..	..	10
Died	1	..	..	..	1
Remaining Dec. 31st, 1920	..	2	..	..	2

Average length of stay, 93 days.

Of the cases discharged from Armley House Sanatorium, under 15 years, all had improved except one, of those over 15 years, 79 had improved whilst 45 either remained stationary or lost ground.

In addition, 52 persons attended as out-patients, chiefly for Pneumothorax, and made 300 attendances.

The total number treated for Pneumothorax during the year, including both in-patients and out-patients, was 101.

Accommodation for Children.—In addition to those received into our own institutions 25 children were treated in the Marguerite Home, Thorparch, and 14 at the Lord Mayor Treloar's Hospital, Alton, Hampshire. The former is the property of the Leeds Invalid Children's Aid Society which by agreement with the Corporation has undertaken to reserve ten beds (since increased to twenty) for the treatment of non-pulmonary cases amongst children. The latter has agreed to place beds at the disposal of the Corporation whenever these are available and special arrangements have been made for transferring cases from Leeds to Alton and for their return to their own homes on completion of the period of treatment.

The hospital at Alton is renowned for the successful manner in which disease affecting the bones and joints of children is treated. It is equipped with the most modern appliances known to medical science and all the latest methods of dealing with this type of the disease are in use. A highly skilled staff of doctors and nurses attend to the wants of the children and the whole of the medical treatment is under the personal supervision of a very eminent surgeon, Sir Henry Gauvain, who has made the treatment of surgical tuberculosis his life's study. The only drawback to the sending of cases to Alton is the long railway journey necessary to be undertaken to get there but any discomfort or inconvenience suffered by the children in this respect is more than compensated for by the permanent benefit to their health which they derive.

Dental.—So far no provision has been made for dental treatment. A scheme was formulated and approved by the City Council and materialized to the extent of premises being chosen and plans and estimates completed for the conversion of these into a dental department, but permission to proceed with the scheme was withheld by the Ministry of Health on account of expense.

After-Care.—Owing to the division of the responsibility for the treatment of tuberculosis in the City it has not been possible to formulate a complete scheme of after-care. As a temporary measure and until such time as the Corporation assumed complete control a small committee representing the various social, industrial,

religious and educational bodies was appointed at the end of the war and has been carrying on the work since. Needless to say the extent of the operations of this Committee has been limited owing to lack of funds and to other conditions over which the committee had no control. Nevertheless much useful service has been given for which the Corporation as well as the beneficiaries are grateful. A complete scheme is now ready and will come into being as soon as the terms of the agreement for handing over the clinical work of the Tuberculosis Association to the Corporation have been finally settled.

Progress of Extended Scheme.—The scheme adopted by the City Council in 1918 and approved by the Ministry of Health advanced a step further during the year. A site for the new sanatorium was purchased at Moortown and plans of the buildings in connection therewith, including wards for the accommodation of 320 cases, together with the necessary administrative buildings and offices were got out and submitted to the Ministry of Health. Unfortunately before the plans had been ultimately approved the proposal was held up by the Ministry of Health on the grounds of expense. It is hoped, however, that the postponement will be only a temporary one, and that the scheme will go forward to its completion as soon as conditions are favourable.

The negotiations with the Tuberculosis Association, which had been in process since the end of 1919, reached a successful termination in January of this year, the latter body agreeing to hand over all the clinical work carried on by it, including the two institutions—Armley House and Gateforth—to the Corporation. Certain details as to the purchase of the effects of the Association in the institutions mentioned still remain to be settled, but I do not think this will stand in the way of the ultimate completion of the agreement. With the demise of the Tuberculosis Association there disappears one of the few voluntary bodies engaged in the treatment of tuberculosis remaining in the country, and I should like here to pay tribute to the splendid work which the Association has accomplished ever since its inception twenty-one years ago.

MATERNITY AND CHILD WELFARE.

Statistics.—The nett number of births for the year 1920 was 11,229, an increase of 3,665 over the total for the previous year. Of these 631 (or 5·6 per cent) were illegitimate. The total number of deaths of infants under one year was 1,232 which is equal to a death-rate of 110 per thousand births. This is a decrease of 9 on last year's infant mortality rate which was 119.

Deaths in Quarters.—The infantile mortality rate for the four quarters of the year is given in the accompanying table by which it will be seen that the first and last quarters accounted for nearly 60 per cent. of the total deaths. Prematurity was responsible for a larger number of deaths in both quarters than any other single cause.

The infant mortality in quarters for the four years 1917-1920 is shewn for purposes of comparison :—

Year.	I.	II.	III.	IV.
1917	121	122	152	151
1918	162	101	114	155
1919	173	102	123	96
1920	139	95	88	112

Deaths in Age Groups.—Of the total infant deaths 304 (or 24·7 per cent). took place in the first week of life, 520 (or 42·2 per cent.) in the first month, 260 (or 21·1 per cent.) between one and three months, 191 (or 15·5 per cent.) between three and six months, 146 (or 11·9 per cent.) between six and nine months, and 115 (or 9·3 per cent.) between nine and twelve months.

The percentage changes in the infant death-rate in 1920 as compared with the average of the previous ten years are as follows :—

Under 1 week, increase	2·3%	3-6 months, decrease ..	30·3%
Under 1 month ..	4·5%	6-9	34·7%
1-3 months	0·4%	9-12	43·3%
Whole year decrease, 15·4%			

INFANTILE MORTALITY DURING THE ELEVEN YEARS 1910-1920 AT DIFFERENT PERIODS OF
THE FIRST YEAR OF LIFE.

YEAR.	Births in year.	Under one week.		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under twelve months.		Under one year.	
		Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
1910	..	299	27·8	499	46·3	259	24·1	244	22·7	223	20·7	208	19·3	1,433	133
1911	..	267	25·5	470	44·9	346	33·0	340	32·5	285	27·2	231	22·1	1,672	160
1912	..	263	25·6	424	41·3	187	18·2	162	15·8	137	13·4	138	13·5	1,048	102
1913	..	304	28·0	493	45·4	283	26·1	269	24·8	218	20·1	200	18·4	1,463	135
1914	..	277	26·0	455	42·7	236	22·2	252	23·7	201	18·9	180	16·9	1,324	124
1915	..	258	26·1	413	41·8	194	19·6	242	24·5	205	20·8	199	20·1	1,253	127
1916	..	247	26·2	437	46·3	220	23·3	234	24·8	156	16·5	169	17·9	1,216	129
1917	..	179	23·6	318	42·0	185	24·4	213	28·1	159	21·0	148	19·5	1,023	135
1918	..	189	25·6	316	42·7	154	20·8	199	26·9	175	23·7	140	18·9	984	133
1919	..	230	30·4	373	49·3	147	19·4	156	20·6	125	16·5	98	13·0	899	119
1920	..	304	27·1	520	46·3	260	23·2	191	17·0	146	13·0	115	10·2	1,232	110

INFANT MORTALITY PER 1000 BIRTHS, 1890 - 1920.



Neo-natal Death-rate.—The term generally adopted when speaking of deaths of infants in the first month of life is “neo-natal” and the neo-natal death-rate for the year works out at 46·3 per thousand births. A very significant feature of the infantile mortality rate is the fact that whilst the rate of death in children under one year has continued to fall since 1905 when it was 152 the neo-natal rate has remained almost stationary. The explanation is patent from an analysis of the causes of death in the first month, see table IV. in appendix which shows that the majority of infants under a month die from conditions or causes which really were operative before birth, *i.e.*, ante-natal. The only way of getting at these causes is by educating parents before as well as after marriage in the duties they owe to each other and to their children and by instructing mothers in the principles of ante-natal hygiene and mothercraft.

Causes of Infant Death.—The chief causes of infant death were as follows :—

DEATHS FROM STATED CAUSES UNDER ONE YEAR OF AGE.

Causes of death.	Year 1919.	Year 1920.	Increase or decrease.
Smallpox .. ..	..	..	..
Chickenpox .. ..	..	..	..
Measles	9	30	+21
Scarlet fever .. ..	..	1	+ 1
Whooping cough ..	25	31	+ 6
Diphtheria and Croup	..	4	+ 4
Influenza	27	8	-19
Erysipelas	3	..	- 3
Tuberculous diseases	22	28	+ 6
Meningitis	11	12	+ 1
Convulsions	61	95	+34
Laryngitis	2	..	- 2
Bronchitis	75	115	+40
Pneumonia (all forms)	77	130	+53
Diarrhoea and Enteritis	122	127	+ 5
Gastritis	17	15	- 2
Syphilis	40	59	+19
Rickets	2	5	+ 3
Suffocation, overlying	6	6	+ -
Injury at birth ..	16	34	+18
Atelectasis	24	29	+ 5
Congenital Malformations	35	40	+ 5
Premature birth ..	190	255	+65
Atrophy, Debility, and Marasmus	98	133	+35
Other Causes	37	75	+38
Totals	899	1,232	+333

It will be observed that of all the causes of infantile death, prematurity is an easy first. Last year it accounted for no fewer than 255 deaths (or 20·7 per cent. of the total) an increase of 65 over the 1919 figure which was 190 and of 46 over the average figure for the previous ten years which was 209. It is very difficult to suggest a satisfactory explanation for the increase unless it be that it is a natural corollary of the increased birth-rate. To me this increase of prematurity has another significance. It indicates that as a result of the higher development of the human race and keeping pace with it, maternity is becoming more and more difficult and precarious. The modern woman is not so well equipped for motherhood as was her more primitive sister. The maternal faculty which used to be so strong in the English woman is perceptibly declining and it is coming to be that the strain on the organism imposed by maternity is too great to be borne without damage to mother or child or both. The entrance of women into stern competition with men not only in professional, commercial and industrial pursuits but also in the world of sport and athletics is in my opinion having a very serious influence on her reproductive capacity. The influence is not so much physical as it is psychological. Physical exercise is not itself detrimental to the fulfilment of the maternal functions but the mental strain imposed by the desire of the weaker organism to equal or even excel the stronger is having a damaging effect on the more delicate and unstable constitution of the former. Proof of this may be had in the number of highly educated and developed women who are brilliant as students and teachers but incapable of becoming mothers. It seems that when development reaches a certain point any advance beyond that is at the expense of the reproductive system.

Illegitimate Death-rate.—Out of a total of 631 illegitimate births 160 (or 25·4 per cent.) died as compared with 567 illegitimate births and 116 deaths (or 20·5 per cent.) in 1919. The illegitimate death-rate per thousand births was 254 which is an increase of 49 when compared with the figure for the previous year. Such a high rate of death is much to be deplored and is a clear call to infant welfare workers to put forth greater efforts to save the unwanted child. That the illegitimate birth-rate should be high is a reflection on the morals of the people and indicates the need for the inculcation of a higher moral standard amongst our young

BIRTHS AND DEATHS UNDER ONE YEAR WITH RATES.—CALENDAR YEAR 1920.

WARD.	TOTAL BIRTHS (nett).	Birthrate per 1,000 population.	No. of legitimate births.	No. of illegitimate births.	Total deaths under one year (nett).	Death rate per 1,000 births.	No. of legitimate deaths under one year.	Legitimate death rate per 1,000 legitimate births.	No. of illegitimate deaths under one year.	Illegitimate death rate per 1,000 illegitimate births.
Central ..	270	22.63	242	28	32	119	22	91	10	357
North ..	890	21.19	838	52	94	106	75	90	19	365
North-East ..	970	25.69	919	51	110	113	95	103	15	294
*New Ward ..	114	14.72	105	9	9	79	9	86	—	—
East ..	1,087	30.20	1,034	53	127	117	111	107	16	302
South ..	453	39.74	424	29	62	137	53	125	9	310
East Hunslet ..	967	29.52	925	42	110	114	103	111	7	167
West Hunslet ..	893	24.09	854	39	88	99	77	90	11	282
†Middleton ..	19	—	17	2	—	—	—	—	—	—
Holbeck ..	828	28.03	783	45	103	124	96	123	7	156
Mill Hill ..	93	18.34	87	6	10	108	10	115	—	—
West ..	563	29.80	503	60	86	153	75	149	11	183
North-West ..	789	26.99	738	51	80	101	74	100	6	118
Brunswick ..	508	22.34	465	43	55	108	46	99	9	209
New Wortley ..	506	32.42	479	27	58	115	50	104	8	296
Armley & Wortley ..	811	21.99	774	37	75	92	66	85	9	243
Bramley ..	451	18.71	439	12	36	80	29	66	7	583
Headingley ..	1,017	20.78	972	45	97	95	81	83	16	356
CITY ..	11,229	25.01	10,598	631	1,232	110	1,072	101	160	254

*Roundhay, Seacroft, Shadwell and Crossgates.

†Added to Leeds, April 1st, 1920.

men and women but that so many of these unfortunate children should die before the end of the first year of life is a reproach on our civilisation.

In Leeds certain provision has been made for the illegitimate child. The day nurseries open their doors to it and prevent it coming to harm whilst the mother pursues her ordinary occupation. In the same way the residential nursery in North Hill Road receives such children but for longer periods and provides the nursing and care which the circumstances of their birth has denied them. In addition to those institutions mentioned there is a small home for illegitimate children, St. Christopher's Home, conducted by the Ripon Diocesan Association. This home is capable of accommodating 40 children and is usually fully occupied.

The statistics with regard to the admissions of children to the day nurseries and to North Hill House are given in a table on page 98.

SUPERVISION OF MIDWIVES.

Number of Midwives.—On December 31st, 1919, there were 66 midwives on the local register. During the year 29 new names were added to the register, 8 were removed (2 because of death, and 6 because they had ceased to practice) leaving at the end of the year 87 names on the register. Twenty-nine of these were attached to institutions. The actual number who took cases during the year was 74, of whom 52 (or 70·3 per cent.) were trained and 22 (or 29·7 per cent.) untrained. The number of births attended by midwives was 5,530 (or 47·7 per cent). of the total births registered in the City.

The following table gives an analysis of the cases attended by midwives :—

TRAINED.			UNTRAINED.	
52 midwives.			22 midwives.	
Total cases attended .. 3,175			Total cases attended .. 2,355	
Average per midwife 61 cases.			Average per midwife 107 cases.	
No. of Cases.	Practising on their own account.	Attached to institutions.	No. of Cases.	Practising on their own account.
Over 300	—	1	Over 300	1
„ 200	—	2	„ 200	1
„ 150	3	—	„ 150	4
„ 100	2	4	„ 100	4
„ 75	3	1	„ 75	4
„ 50	2	—	„ 50	1
„ 25	3	2	„ 25	3
„ 10	7	10	„ 10	2
„ 5	2	4	„ 5	—
Under 5	3	3	Under 5	2

Eleven trained midwives (two attached to institutions) and two not trained, took no cases during the year.

Advising Medical Help.—Notifications of having advised medical assistance were received in 1,049 cases which may be classified as follows :—

Illness during pregnancy, abortion or miscarriage ..	34
Malpresentation	39
Delayed or obstructed labour	211
Ruptured perineum	212
Retained membrane or placenta	44
Hæmorrhage	20
Convulsions, eclampsia	4
Puerperal rise of temperature	36
Illness of child	303
Artificial feeding	28
Death of infant under ten days	30
Other causes	88

Midwives' Emergencies.—During the year 126 claims were made by medical practitioners in the City for attendance on emergencies of labour under Section 14 of the Midwives Act, 1918. Of these 15 were paid direct by the parent whilst the remainder, 111, were settled by the Local Authority at a total cost of £173 7s. 9d.

Inspection of Midwives.—The inspection of midwives' bags, books and appliances was carried out regularly during the year, the total number of such inspections made being 93. Midwives were interviewed on 130 occasions in connection with breaches of the rules of the Central Midwives Board and other minor demeanours.

Cases reported to the C.M.B.—Two midwives were reported to the Central Midwives Board for misconduct and breach of the rules. In one of these the midwife was called upon to appear before the Board. As a result of the Board's enquiry into the allegations against her she was severely censured and warned that if the report of the local supervising authority as to her conduct continued to be unfavourable for a period of nine months her name would be removed from the midwives roll. In the other case no *prima facie* case was found against the midwife and the Central Midwives Board declined to proceed further with it. She was therefore warned by myself and instructions were given for close watch to be kept on her future conduct.

Puerperal Fever Cases.—Cases of puerperal fever and high temperature were investigated and where the case was infectious disinfection of the midwife's person, clothing and maternity bag was carried out under the personal supervision of the chief woman inspector. The total number of visits paid for this purpose was 73, and the total number of midwives disinfected 32.

Handywomen.—In addition to visits paid to midwives 18 visits were paid to handywomen and five of these were disinfected.

Pemphigus Neonatorum.—Outbreaks of pemphigus neonatorum occurred in the practices of four midwives. The disease appeared in the practice of a certain midwife in a populous working class district and spread rapidly through her own practice and appeared in the practices of other three midwives. A certain number of doctors' cases were also involved. Special efforts were made through the health visitors of the affected districts to stamp out the disease but without much success as the disease not being notifiable cases were difficult to locate. The midwife in whose practice the outbreak commenced was suspended for two weeks and the others were disinfected at frequent intervals. Actual cases were referred to the infant welfare centres for advice and treatment. One of the medical officers of the maternity and child welfare staff was deputed to investigate the outbreak with a view to discovering the cause. Nothing of a helpful or conclusive nature, however, resulted from her investigations and the outbreak gradually subsided.

Still-births.—The total number of still-births notified was 461 (or 4·1 per cent.) of the total births notified—an increase of 121 on the figures for 1919 which was 340. This increase was not unexpected and is in keeping with the high general birth-rate.

Such a loss of life in the ante-natal period is to be deplored but what grieves one more than the deaths of these immature babies is the fact that we are left in the dark as to the causes and therefore are without guidance as to how best to prevent them. It would be of the utmost assistance if the registration of still-births was made compulsory just as live-births are. Then we could have definite knowledge on which to base any preventive effort. The

following table shows the comparison between live-births and still-births for the last seven years, whilst in another table a complete analysis of the still-births is given.

BIRTHS NOTIFIED (LIVE AND STILL).

Year.	Live births notified.	Still births notified.	Total births notified live and still.	Percentage of still to total births notified.
1914	9,738	105	9,843	1·1
1915	8,153	350	8,503	4·1
1916	7,836	394	8,230	4·8
1917	7,017	328	7,345	4·5
1918	6,892	287	7,179	4·0
1919	7,684	340	8,024	4·2
1920	10,749	461	11,210	4·1

Notification of Births Act came into force 1st January, 1914.

Of the 461 still-births notified, 110 (or 23·9 per cent.) were by midwives, and the remainder, 351 (or 76·1 per cent.) by medical practitioners. Of the midwives cases, 110 were investigated by the inspector of midwives and a summary of these investigations is given below :—

Sex of still-born children :—Males 49, females 55, doubtful 6.

Period of Gestation.	Cases.	Percentage of Total.
— 7 months	5	4·5
7–8 months	15	13·6
8–9 months	20	18·2
Full time	60	54·5
Doubtful	10	9·1

Condition of foetus.—Macerated, 51 ; not macerated, 45 ; doubtful, 14.
Presentation.—Vertex, 85 ; Placenta prævia, 1 ; Transverse, 0 ; Face, 0 ; Breech, 9 ; Footling, 5 ; Cord, 2 ; B.B.A., 4 ; Doubtful, 4.
Age of Mother.—Under 25 years 28 ; 25–35 years 57 ; 35–45 years 21 ; 45–48 years 0 ; doubtful 4.

Ante-natal Work.—The number of ante-natal centres now at work in the City is 12. During 1920 the number of new names added to the registers at the various centres was 959 as compared with 758 in 1919 whilst the total attendances at all the centres was 5,957 as compared with 3,989. Thus it will be seen that the work has considerably increased during the year, and the large numbers attending some of the centres necessitated a further increase in the number of clinics. Particulars of the work of the ante-natal centres are set out in the following table :—

EXPECTANT MOTHERS ON REGISTER.

District.	No. on register at beginning of year.	Registered during year.	Live births.	On register end of year.	Total attendance of expectant mothers.
Ellerby Road ..	45	151	130	39	850
West Street ..	22	98	78	27	361
Burmantofts ..	26	93	65	35	769
Hunslet	46	109	118	30	812
University ..	14	63	47	24	458
Woodhouse ..	28	76	84	17	483
Holbeck	33	105	103	20	594
Armley	52	38	63	22	296
Chapeltown ..	16	56	44	18	289
St. Nicholas ..	19	35	37	11	238
Bramley	8	40	26	16	440
*New Wortley ..	..	95	57	28	367
Totals ..	309	959	852	287	5,957

* Opened March 11th, 1920.

Natal Work.—Of the total births registered in the City, 1,645 (or 14·2 per cent.) took place in institutions or nursing homes. This is an increase of 486 over the number recorded in 1919. The reason for the increase is undoubtedly the shortage of houses and consequent overcrowding in many parts of the City and the difficulty in regard to the supply of domestic labour. In this connection it may be mentioned that for the greater part of the year the Maternity

Hospital was full and overflowing and had to refuse a large number of applicants for accommodation. The private maternity nursing homes experienced the same thing and notwithstanding the high fees charged in some of these homes the demands for beds greatly exceeded the supply.

Need for smaller Maternity Homes.—There is undoubtedly in the City a need for the establishment of small maternity homes in the congested working class areas. It is neither right nor desirable that births should take place in these small, cramped, often overcrowded back-to-back houses which is the common type of house in the areas mentioned. That a woman should be expected to go through the process of childbirth in the presence of other members of the family is an outrage on decency and doubtless the increase in the number of cases of puerperal fever is largely attributable to the lack of suitable accommodation and proper nursing during confinement.

Illegitimate Births in Institutions.—Of the 1,645 births taking place in institutions 469 (or 28·5 per cent.) were illegitimate.

Post-natal Work.—The number of births notified during the year (exclusive of stillbirths) was 10,749, (or 92·8 per cent.) of the total births registered. This is not such a good record as that presented for 1919 when the notifications reached a percentage of 98 of the total births.

Home Visiting.—First visits were paid by the health visitors to 10,936 infants. The number of re-visits was 48,754 which together with first visits makes a total of 59,690 visits for the year.

The staff of health visitors engaged on the work in connection with the visiting of mothers and infants numbers 19 exclusive of the chief woman inspector and her assistant. In addition to the visits paid in connection with the notification of births the health visitors periodically visit all children up to the age of five years when they come under the care of the School Medical Service. The health visitors also are responsible for the visitation of cases of ophthalmia neonatorum, pemphigus neonatorum, measles, pneumonia, and such special cases as are referred by the Almoners of the Leeds General Infirmary and the Public Dispensary.

Apart from these duties the health visitors carry out the preliminary investigations in connection with claims received from medical practitioners for attendance on emergency midwifery cases, in connection with the supply of milk to mothers and children not actually in attendance at the infant welfare centres.

A complete summary of the work of the health visiting staff is appended :—

	VISITS.
Ophthalmia neonatorum	538
Measles	11,475
Pneumonia	516
Medical Aid and Milk	489
Other Cases	2,189
Expectant mothers	644

Infant Welfare Centres.—Since the issue of my annual report for 1919, the number of centres in the City has increased to twelve by the opening of a new centre in New Wortley. Formerly the New Wortley mothers attended the Armley Centre but the numbers attending the latter reached such dimensions as to be unmanageable, and it was considered advisable to open a centre in New Wortley which would be more accessible to the majority of the mothers. Already the centre is proving most successful and it has become necessary on account of the ever increasing attendances to duplicate the infant consultations.

Congestion at the Centres.—The Armley centre was not alone in its experience as regards overcrowding and unmanageable numbers. All the other centres were in a similar state of congestion and the strain on the medical and nursing staff not only interfered with the efficiency of the work but engendered a spirit of discontent alike amongst staff and mothers. A special committee appointed to look into the matter and make suggestions as to a possible remedy reported to the Health Committee that there was urgent need for further sub-division of the infant consultation clinics and for the appointment of additional staff to undertake the extra work.

As a result the Committee decided to sanction the appointment of two additional medical officers, one additional nurse and six clerk dispensers. The last mentioned were intended to relieve the clinic nurses of the dispensing of dried milk, virol, drugs and dressings

BABIES UNDER ONE REGISTERED DURING YEAR 1920.

DISTRICT.	0-1 month.	1-3 months.	3-6 months.	6-12 months.	Total.
Ellerby Road	151	194	52	55	452
West Street ..	167	324	88	65	644
Burmantofts ..	139	281	80	63	563
Hunslet ..	175	232	63	46	516
University ..	90	141	29	21	281
Woodhouse ..	145	197	57	32	431
Holbeck ..	185	282	89	71	627
Armley ..	83	206	58	42	389
Chapelton ..	88	148	48	28	312
St. Nicholas ..	87	135	44	33	299
Bramley ..	22	113	55	40	230
*New Wortley..	116	125	77	20	298
Totals ..	1,448	2,378	700	516	5,042

* Opened March 11th, 1920.

BABIES OVER ONE REGISTERED DURING YEAR 1920.

DISTRICT.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	Total.
Ellerby Road	17	22	7	9	55
West Street ..	49	23	16	13	101
Burmantofts ..	38	24	7	4	73
Hunslet ..	41	24	21	11	97
University ..	9	14	5	6	34
Woodhouse ..	21	7	8	7	43
Holbeck ..	53	33	12	11	109
Armley ..	27	11	14	10	62
Chapelton ..	24	13	13	6	56
St. Nicholas ..	40	24	20	14	98
Bramley ..	25	25	16	15	81
*New Wortley..	20	13	5	9	47
Totals ..	364	233	144	115	856

* Opened March 11th, 1920.

ATTENDANCES MADE AT INFANT WELFARE CENTRES DURING YEAR 1920.

DISTRICT.	Consultations and meetings.			Morning treatment.				
	Expectant mothers.	Babies under 1 year.	Babies 1—5 years.	Expectant mothers.	Mothers.	Babies under 1 year.	Babies 1—5 years.	Callers.
Ellerby Road..	850	3,810	1,284	211	577	930	443	1,831
West Street ..	361	6,269	1,932	15	67	689	303	603
Burmantofts ..	769	5,839	1,337	195	473	1,395	420	1,533
Hunslet ..	812	5,564	2 446	173	639	1,382	674	1,455
University ..	458	2,222	1,074	369	583	1,639	1,377	1,037
Woodhouse ..	483	4,135	708	80	165	541	278	642
Holbeck ..	594	5,632	2,437	93	452	1,072	727	914
Armley ..	296	3,268	1,531	203	718	953	1,092	782
Chapelton ..	289	2,486	724	90	207	519	352	607
St. Nicholas ..	238	2,937	834	132	145	1,457	1,222	1 166
Bramley ..	440	2,044	1,465	257	489	1,427	898	265
New Wortley ..	367	2,143	997	249	575	1,358	845	455
Totals ..	5,957	46,349	16,769	2,067	5,090	13,362	8,631	11,290

* Opened March 11th, 1920

and also to undertake the clerical work which in consequence of the large numbers attending had assumed impossible proportions. The appointment of the clerk dispensers has proved of the utmost value to the centres and has added greatly to the efficiency of the work.

Infant Consultations.—The average number of infant consultations at each centre is now three per week, and in addition clinics are held at all the centres every morning for the treatment of minor ailments so that the centres are kept well occupied practically during the whole of the day. Any spare time which the clinic nurses may have is devoted to the visitation of special cases which for one reason or another are unable to attend at the ordinary consultation hours.

Details of the work of the various centres will be found in the tables on pages 86, 89, 90 and 91.

Comparison with the figures for 1919 shows that there has been a considerable increase in many of the totals.

HOME VISITS PAID BY CLINIC NURSES DURING YEAR 1920.

DISTRICT.	Babies under 1 year.	Babies 1—5 years.	Old Visits.	Total Visits.	Expect- ant Mothers.	Total Visits to both.
Ellerby Road ..	199	175	13	387	257	644
West Street ..	657	620	23	1,300	145	1,445
Burmantofts ..	264	240	20	524	290	814
Hunslet ..	48	166	8	222	39	261
University ..	292	142	31	465	132	597
Woodhouse ..	616	453	412	1,481	153	1,634
Holbeck ..	267	298	24	589	146	735
Armley	236	364	27	627	52	679
Chapelton ..	306	365	117	788	198	986
St. Nicholas ..	73	39	3	115	37	152
Bramley ..	536	550	82	1,168	240	1,408
*New Wortley ..	206	215	33	454	139	593
Totals ..	3,700	3,627	793	8,120	1,828	9,948

* Opened March 11th, 1920.

Leeds Babies' Welcome Association.—For the continued success of the work much credit is due to the untiring efforts of the Executive Committee of the Leeds Babies' Welcome Association and to the devoted service which the voluntary workers have given at each of the centres. Where so much earnest work has been accomplished it would be invidious to draw any distinction between the various centres but I should like to acknowledge my indebtedness for the help which I have received and express my thanks to all those who have so willingly and cheerfully given of their valuable time to help on the work amongst the mothers and babies of the City and so loyally backed up any efforts made by the Public Health Department to increase the efficiency of the scheme.

Milk (Mothers and Children) Order, 1919.—The tables on page 92 give particulars of the milk supplied through the infant welfare centres to mothers and children during the year. Both fresh cows' milk and dried milk are given and the price paid by the parent varies according to home circumstances. Milk is only given when

certified by a doctor to be necessary and after close scrutiny by the milk Secretaries and the milk Committee. The Secretaries go very carefully into the circumstances of every applicant and report to the Committee which decides as to whether the case is one for free or assisted supply and if the latter the amount of the parents' contribution. The Committee has accomplished a great deal of most valuable work during the year and has undoubtedly been the means of saving the City a considerable sum of money besides acting as a check on unscrupulous individuals who were desirous of obtaining milk by fraudulent means. The ever increasing amount of unemployment due to the industrial depression during the latter half of the year added very greatly to the Committee's work and it is to their credit that they tackled it so successfully. The Committee held 50 meetings during the year and considered 5,917 applications of which 136 were refused. The milk secretaries paid 475 visits to the infant welfare centres and interviewed 5,986 applicants, 1,307 for the first time and 4,679 repeats. In addition to those applicants interviewed at the centres they also interviewed 234 external applicants at the Central Offices.

AMOUNT OF DRIED MILK DISTRIBUTED IN LBS.

1920.	Free.	Assisted.	Full Price.	Total.
I. Quarter ..	816	5,070	2,248	8,134
II. ,, ..	849	4,658	3,064	8,571
III. ,, ..	1,391	3,399	4,395	9,185
IV. ,, ..	2,065	2,778	4,758	9,601
Total ..	5,121	15,905	14,465	35,491

NUMBER OF RECIPIENTS.

1920.	Free.	Assisted.	Full Price.	Total.
I. Quarter ..	155	628	382	1,165
II. ,, ..	200	621	522	1,343
III. ,, ..	257	465	541	1,263
IV. ,, ..	321	420	510	1,251
Total ..	933	2,134	1,955	5,022

AMOUNT OF COWS MILK DISTRIBUTED IN PINTS.

1920.	Free.	2½d. per pint.	3½d. per pint.	Total.
I. Quarter ..	32,118	57,328	..	89,446
II. „ ..	29,095½	49,332½	277½	78,705½
III. „ ..	27,145	30,603½	1,150	58,898½
IV. „ ..	40,560½	24,862	2,619½	68,042
Total ..	128,919	162,126	4,047	295,092

NUMBER OF RECIPIENTS.

1920.	Free.	2½d. per pint.	3½d. per pint.	Total.
I. Quarter ..	475	781	..	1,256
II. „ ..	414	624	4	1,042
III. „ ..	450	374	17	841
IV. „ ..	795	327	22	1,144
Total ..	2,134	2,106	43	4,283

THE INFANTS' HOSPITAL, WYTHHER.

The year was a busy one at the hospital. The number of cases admitted was 249. The majority of the cases belonged to that group of wasting diseases commonly classed as Marasmus. The origin of many of these cases of intractable wasting is obscure. The diet is often blamed but in a considerable proportion of cases feeding has nothing whatever to do with the failure of the baby to thrive.

The cause seems to lie deeper and may possibly be associated with failure of the endocrine glands to furnish a sufficiency of those highly complex substances known as hormones on which the growth and development of the body largely depend. But, whatever the cause treatment is most disappointing and one is frequently baffled

SUMMARY OF CASES TREATED IN THE INFANTS' HOSPITAL, WYTHHER,
DURING THE PERIOD JANUARY 1st—DECEMBER 31st, 1920.

	Males.	Females.	Total.
Remaining in Hospital, December 31st, 1919	18	11	29
Admitted during the year 1920	148	101	249
Discharged during the year ..	85	77	162
Died during the year	53	24	77
Remaining in Hospital, December 31st, 1920	28	11	39

Mortality Rate per cent, 27.7.
Average stay in Hospital was 62.4 days.

CLASSIFICATION ACCORDING TO AGE AND SEX.

Males.		Females.		Total Infants		Grand Total.
Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	
91	75	50	62	141	137	278

by what appears to be quite a simple straightforward case. Advanced cases are almost hopeless ; no treatment seems to be of any avail to save them. But with early and second stage cases the results are much more encouraging.

The rate of mortality for the year has been high largely because so many of the cases of marasmus sent in were of the advanced type. The cases admitted and discharged as well as the deaths are analysed in the tables which follow.

ANALYSIS OF CASES ADMITTED DURING 1920.

	Males.	Females.	Total.
Bronchitis.. ..	16	8	24
Adenitis	1	1	2
Marasmus.. ..	52	31	83
Marasmus Acetonæmia	1	..	1
Debility	25	27	52
Rickets	17	11	28
Scurvy Rickets	1	..	1
Gastro-Enteritis	2	1	3
Congenital Syphilis	4	2	6
Dyspepsia.. ..	..	1	1
Broncho-pneumonia	6	2	8
Pneumonia	1	2	3
Malnutrition	5	4	9
Tuberculosis—Pulmonary	2	..	2
Non-Pulmonary.. ..	1	..	1
Septic Arthritis	1	..	1
Discharging Umbilicus .. ..	..	1	1
Hemiplegia .. ..	..	1	1
Otitis Media .. ..	..	2	2
Convulsions	2	..	2
Eczema	3	1	4
Diarrhœa and Vomiting	2	1	3
Ulcerative Stomatitis .. ..	..	1	1
Ileo Colitis	1	..	1
Prematurity .. ..	..	3	3
Ophthalmia	1	..	1
Neglect .. ..	..	1	1
Improper Feeding	1	..	1
Pleurisy	1	..	1
Bronchial Catarrh	1	..	1
Mitral Disease	1	..	1
TOTALS	148	101	249

ANALYSIS OF DEATHS.

Cause of death.	Under 1 year.		Over 1 year.		Total.
	Males.	Females	Males.	Females	
Tub. Peritonitis	1	..	..	..	1
Congenital Syphilis	14	1	3	1	19
Rickets .. .. .	..	..	3	1	4
Meningitis .. .. .	..	..	1	1	2
Laryngismus Stridulus ..	1	..	..	..	1
Gastro-Enteritis and Diarrhœa	1	1	3	..	5
Measles	1	..	1	3	5
Marasmus	15	4	..	..	19
Premature Birth	1	4	..	..	5
Broncho-Pneumonia .. ..	..	1	..	..	1
Bronchitis	4	3	1	1	9
Convulsions	2	..	..	..	2
Dyspepsia .. .. .	..	1	..	..	1
Pleurisy	1	..	..	..	1
Icterus Neonatorum .. ..	..	1	..	..	1
Atelectasis .. .. .	..	..	..	1	1

Day Nurseries.—Unemployment has had a depressing effect on the attendances at the four day nurseries during the year but nevertheless they have continued to fill a very important place in the Maternity and Child Welfare Scheme. I should like to acknowledge again my indebtedness to the ladies of the Executive and the various House Committees for the most valuable assistance which they have afforded in the management of the nurseries during the year.

Residential Nursery.—The residential nursery at North Hill House which was opened in 1918 had to be vacated in the early months of 1921 owing to the sale of the property. New and commodious premises situated amidst pleasant surroundings were leased in Cardigan Road and thither the children and all the household effects were removed in February of this year. The nursery is a great boon to those unfortunate mothers who because of illness, desertion or poverty are unable to provide a comfortable home for their babies. There is always a long list of applicants awaiting admission and some of the cases are most distressing. The existence of such an institution as this in Leeds is amply justified and any money spent upon it is money well spent. The total number of children admitted to the residential nursery was 58. The subjoined table gives details of the attendances at the day nurseries and the residential nursery during the year.

TOTAL ATTENDANCES OF RESIDENT AND DAY CHILDREN AT THE NURSERIES, IN AGE GROUPS,
FOR THE YEAR ENDED 31ST DECEMBER, 1920.

NURSERY.	RESIDENT.				DAY.							
	WHOLE ATTENDANCES IN DAYS.				WHOLE ATTENDANCES.				HALF ATTENDANCES.			
	Under 3	3-5	Over 5	Total.	Under 3	3-5	Over 5	Total.	Under 3	3-5	Over 5	Total.
Cobden Place	..	..	..	..	3,591	762	..	4,353	552	48	...	600
Sun Dial House	2,345	120	..	2,465	328	19	..	347	146	7	..	153
Holbeck	..	..	..	..	2,666	350	129	3,145	256	13	5	274
Burley	..	..	..	..	2,195	596	363	3,154	162	72	76	310
North Hill House	3,459	2,040	918	6,417	..	..	..	..	..	..	..	..
Totals	5,804	2,160	918	8,882	8,780	1,727	492	10,999	1,116	140	81	1,337

Sun Dial House was closed as a residential nursery on February 14th, and resumed as a day nursery on October 2nd, 1920.

Convalescence of Mothers and Babies.—Convalescent treatment was arranged for by the Leeds Children's Convalescent and Summer Holiday Fund for 59 mothers and 47 babies. The average duration of treatment was two and a half weeks. The total expense incurred was £272 18s. 2d. of which the parents contributed £78 4s. 6d. and the Corporation £194 13s. 8d.

In addition 155 children under five years of age were sent for convalescence to Meanwood Convalescent Home. The duration of stay of each child in the home was two weeks and the total cost £301 13s. 10d.

PROPAGANDA.

I am more and more persuaded that no real advance in Public Health can be made apart from the people themselves. Public opinion must be behind any effort which either the State or the Local Authority may make. No legislation however good it may be can yield the best results unless it is understood and supported by the enlightened section of the community. But to understand, the people must be educated and it ought to be part of the duties of a Public Health Department to provide that education. By posters, pamphlets, lantern slides, films, press notices and public addresses more can be done to advance the cause of health and good sanitation than by all the Acts of Parliament ever designed.

In Leeds this policy has been adopted with the best results. Throughout the whole of the year members of the staff were engaged in giving lectures or short addresses to audiences in all parts of the City. Generally these were organized by guilds, trade unions, labour organizations, debating societies or religious institutions. The subjects discussed covered the whole range of Public Health activity and aroused keen interest in the minds of those who attended. The annual congress of the Tuberculosis Society held in May was made the occasion of intensive propaganda in support of the measures taken to combat consumption in all its forms. Similarly in connection with Baby Week in June, and the Provincial

Conference of Propaganda Committees of the National Council for Combating Venereal Disease in the autumn, efforts were made to capture the interest of all sections of the community.

A series of special articles were written on various aspects of Public Health and published by the *Yorkshire Post*, and short paragraphs dealing with matters of topical interest constantly appeared in one or other of the evening papers. In this connection I should like to pay a tribute to the local press for the most valuable help and support which it has afforded the Public Health Authority in disseminating through the columns of the newspapers, knowledge concerning the presence of epidemic disease in the City and the best methods of combating it. Its voluntary service in this direction has I am sure saved the City much treasure in money and life.

STAFF CHANGES.

During the year the following changes of staff took place :—

Nora F. Smith, M.B., B.S., D.P.H., was appointed Assistant Medical Officer of Health for Maternity and Child Welfare on December 8th, 1920.

Elizabeth P. Y. Paterson, M.B., Ch.B., was appointed Medical Assistant for Maternity and Child Welfare on October 13th, 1920.

Cecilia Shiskin, B.A., M.B., Ch.B., was appointed Medical Assistant for Maternity and Child Welfare on November 18th, 1920, in place of Dr. Frances M. Harper, resigned.

William A. Todd, M.B., Ch.B., was appointed Medical Superintendent of the Killingbeck Sanatorium on May 13th, 1920, in place of Dr. Nicholas Gebbie, resigned.

Dr. Marjorie Harris, M.B., Ch.B., was appointed Assistant Medical Officer at Killingbeck Sanatorium on November 25th, 1920, in place of Dr. Helen Murdoch, resigned.

Miss M. S. Brandreth, Chief Woman Inspector and Inspector of Midwives, resigned on October 13th, 1920.

HOUSING.

Number of Houses.—The total number of houses in the City is 113,310 which comprises 34,904 through houses and 78,406 back-to-back houses.

Back-to-Back Houses.—The latter are divided into three groups according to the period at which they were erected. The first or oldest group number 35,100 and consists of single or two room houses without scullery, built in long unbroken rows abutting on the street, without garden or forecourt ; the second or intermediate group numbers 29,082 houses and consists of two and three room houses with or without scullery, built in blocks of eight and abutting directly on the street as in the first group ; the third or most modern group, the erection of which was approved up to the passing of the Housing and Town Planning Act, 1909, numbers 14,224 houses and consists of three to five room houses with scullery and fifteen feet garden or forecourt in front.

Sanitary conveniences.—The sanitary conveniences serving the first group are in confined courts and yards or sandwiched in between the houses wherever there is space for them and are deficient in number and generally dark and ill-ventilated ; in the case of the second group the sanitary conveniences are built in the open spaces at the end of the blocks ; the modern back-to-back house is provided with a water-closet of its own which is situated in the forecourt. With the exception of these in the third group, very few of the houses in the other groups possess baths.

Healthiness of the Groups.—The first group is frankly bad and unhealthy and must be got rid of as soon as practicable ; the second is better but requires drastic improvement to bring it up to standard ; the third consists of a good type of house which while not quite up to the standard of the modern through house does not fall very far short of it. It will thus be seen that the Leeds housing problem is an exceptionally difficult one, which can only be solved gradually. As the new housing schemes develop and the arrears of building are overtaken it will become possible to make a start with the clearance of the oldest type of house, but at the present rate of building that cannot be for some years yet. One is apt to

become impatient with the slow rate of progress in regard to the clearance of slum areas but when considering the solution of the slum problem it is necessary to reflect that it takes a long time—many years—for a slum to evolve and it is manifest that the old unhealthy houses cannot be replaced by modern dwellings in the space of a decade or even two decades. Meanwhile the obvious duty of all concerned is to get on with the building of the new houses and provide homes for the families who are at present living under the worst possible conditions of overcrowding in practically all the working class districts of the City.

Housing Shortage.—It is estimated that there is a shortage of houses to the extent of 5,800 which is due to the fact that house building was in abeyance during the five years of war.

Overcrowding.—As is well known Leeds was an important munitions centre and attracted a large number of workpeople. Many of these were married with families and either found accommodation in houses vacated by men who went on active service or in furnished rooms. During the war it was not uncommon to find as many as six and eight families crowded into one house. Many when they came to Leeds were unmarried but whilst the war was in progress or very soon after its termination married and have since become permanent residents. During 1919 and 1920 men who gave up their houses when they joined the colours returned only to find that there were no houses for them, and they had perforce to be content with such accommodation as offered rather than be without altogether. The result is that a population has grown up in excess of the available houses and to meet the excess demand which is estimated at nearly 5,000 and at the same time to provide for the normal growth of population it will be necessary to erect 5,800 new houses.

New Houses.—To this end the Corporation has purchased large tracts of land in various parts of the City and has laid these out as housing estates. There are six such estates which when built up will not only provide the number of houses required but also a certain margin over and above that. The number of contracts let up to the end of July of this year was 2,943 and the number of houses completed and in occupation 309.

The subjoined table gives details.

*
PRESENT STATE OF HOUSING SCHEMES.

HOUSING SITE.	HOUSES FOR WHICH CONTRACTS HAVE BEEN SIGNED.				HOUSES COMPLETED.			
	Type A.	Type B.	Type B4.	Type C.	Type A.	Type B.	Type B4.	Type C.
Hawksworth Wood	219	175	8	..	52	48	..	..
Wyther House	192	300	..	..	10	40	..	..
Meanwood	390	388	22	..	51	22	..	..
Ivy House	46	..	..	..	24	..	..	..
Crossgates* . . .	145	308	48	..	..	2	..	..
Section 12/3 Houses	271	116	11	..	33	10	11	..
Demonstration Houses (Meanwood)	..	6	..	..	..	6	..	..
Middleton	75	74	..	149	..	..	..	..
TOTALS ..	1,338	1,367	89	149	170	128	11	..

* The Contract for the 501 houses at Crossgates has been broken, and it is proposed only to complete 88 of the original contract, but arrangements have been made for the erection of a further 212, giving a total of 300.

It is unfortunate that notwithstanding the urgency of the need the rate of building has been so slow but there have been great difficulties to contend with. In the first place labour has been uncertain and scarce, not that there was an actual dearth of workmen but there was an artificial shortage brought about by the restrictions imposed by the men's unions ; secondly, material was scarce and prices high ; thirdly, the Government often made impossible conditions and reservations and thus caused unnecessary delay in

getting plans passed and contracts let. Changes of policy on the part of the Government have also had a retarding effect. Things have improved lately, however, and there has been a general speeding up all round, as a result of which it is hoped that before the end of the current year well on for a thousand houses will be completed and in occupation.

Standard of housing in Leeds.—The general standard of housing in the district has already been referred to in the opening paragraphs of this section. It is worthy of note that over two-thirds of the houses in the City are of the back-to-back type—a type much in evidence in all Yorkshire towns. It is the custom of certain sanitarians to condemn this type of house as insanitary but many of the reasons they give in justification of their condemnation are wrong whilst others are not borne out by actual experience. It cannot be denied that the oldest type of back-to-back house is bad in every respect, but the new type, which is a marked advance on the old is roomy, well ventilated, well lighted and possesses all the modern improvements as regard sanitary appliances, washing and bathing accommodation, &c. This type is without doubt as good as some of the through houses that are being built to-day and better than many of the older type of through houses. I hold no brief for the back-to-back house, indeed I dislike it as much as anyone and would strongly oppose any suggestions to re-introduce it but I feel bound to refute many of the loose statements which are made to-day as to its invariable unhealthiness.

Effects of the War on House Property.—House property in this as in other cities deteriorated to a very marked extent during the war. Then it was only the important defects that were attended to and small repairs were allowed to wait. This meant that when the war ended there was a vast accumulation of arrears to be tackled in order to restore property to a good condition of repair. The principal difficulties were those in connection with eavespouting, fallpipes, water-closet basins, water-closet cisterns, paving, dampness of walls, leaking roofs, &c. Since the middle of 1919 a strenuous attempt has been made to overtake the arrears in sanitary work, and whilst there are still many outstanding the majority have been dealt with. For many months after the declaration of peace, material for carrying out repairs was so scarce as to be unobtainable

and could be bought only at ransom prices—for example, it was not until practically the end of 1920 that anything like an adequate supply of eavespouts and fallpipes came on to the market. Owners of property had a comparatively easy time during the war but since its close they have had to face heavy expenditure in order to restore their property to the requisite standard of sanitary repair. The passage into law of the Increase of Rent and Mortgage Interest (Restrictions) Act in 1920 is proving of great assistance in helping owners to meet their expenses in this respect.

Unfit houses.—With regard to unfit houses, attempts have been made wherever possible to have them made fit because of the dearth, but where it has not been possible to render a house in all respects fit for human habitation, it has been closed.

It cannot be denied that there are numbers of houses in the City to-day in occupation which are totally unfit and cannot be made fit for human habitation, but by dint of careful supervision and patching up they are kept in commission. With a list of over 5,000 names of applicants waiting for houses, it would be folly to pursue any other course.

Storage of household refuse.—The water closet accommodation and the provision for the storage of household refuse in connection with the older type of back-to-back house is very unsatisfactory. I have already commented upon the former and in regard to the latter I should like to remark that the brick-built ashpit cannot be regarded as other than dangerous, especially in the congested areas. These receptacles by reason of their large capacity are capable of storing upwards of a load or more of household refuse at a time, and it can be readily imagined what a source of danger such an accumulation is, especially in warm weather. Attempts are being made to abolish the type entirely, and little by little it is being superseded by the more sanitary ashbin, but meanwhile it would be of the very greatest assistance and would minimise the danger which accrues from such large accumulations of refuse if these pits could be cleansed not less frequently than once a fortnight.

Information as to action taken under the various Housing Acts are set out in the table on page 106.

**HOUSING, TOWN PLANNING, &c. ACTS, 1909, 1919, 1920, and
THE HOUSING OF THE WORKING CLASSES ACT, 1890, Parts I. & II.**

Table showing the number of houses examined as part of a general survey of the town during the year ending December 31st, 1920, and the numbers represented or otherwise dealt with, pursuant to the Housing Acts, with the corresponding figures for 1918, 1919.

	1918.	1919.	1920.
Number of Houses completely examined for the purpose of the Housing, Town Planning, etc., Acts, 1909, 1919, 1920, and the Housing of the Working Classes Act, 1890, Parts I. and II. ..	184	52	561
Number of Houses partially examined in regard to fitness and overcrowding in connection with the Local Government Board inquiry form ..	996	..	..
Houses partially examined on account of Housing Nuisances, and investigated complaints.. ..	83	47	90
Houses partially examined in areas and coloured Pink on the Map on "Housing Needs" Form D. 89, of the Ministry of Health .. ..	..	3,215	..
TOTAL	1,263	3,314	651
Housing, Town Planning, Etc., Act, 1909, Secs. 15 and 17—			
Representations made	1	2	..
Closing Orders made .. .. .	..	..	..
Demolition Orders made .. .. .	..	..	..
Housing, Town Planning, &c., Act, 1919, Sec. 28—			
Number of Dwelling-houses which on inspection were considered to be not in all respects reasonably fit for human habitation ..	59	22	160
Houses repaired and made fit for habitation			120
Houses still under consideration			40
			<u>160</u>
Houses with Nuisances abated where action was suspended during the war	78	52	81
Unoccupied Houses repaired voluntarily	184	9	..
Houses examined in detail for the purpose of the Housing of the Working Classes Act, 1890, Part I. ..	..	..	277
Houses that are in a dilapidated state and cannot be made fit for human habitation without structural alteration or reconstruction .. ..	..	..	132
Houses closed without Order (dangerous) .. ..	..	4	1

MINISTRY OF HEALTH TABLES .. .. .	107-110
TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1920 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.						
		Un-corrected Number.	Nett.	Number.	Rate.	Of Non-residents registered in the District.	Of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.				
								Number.	Rate.					
											Number.	Rate per 1,000 Net Births.		
1	2	3	4	5	6	7	8	9	10	11	12	13		
1911	445,983	10,597	10,562	23·8	7,124	16·0	283	490	1,679	159	7,331	16·5		
1912	447,746	10,367	10,309	23·1	6,204	13·9	275	467	1,051	102	6,396	14·3		
1913	457,295	10,947	10,877	23·4	7,231	15·6	281	287	1,469	135	7,237	15·6		
1914	459,260	10,749	10,652	23·3	6,874	15·0	313	324	1,324	124	6,885	15·0		
1915	459,260	9,990	9,877	21·5	7,557	16·5	298	350	1,253	127	7,609	16·6		
1916	446,349	9,572	9,432	21·1	6,867	15·4	302	381	1,216	129	6,946	15·6		
1917	438,254	7,738	7,566	17·3	6,962	15·9	307	397	1,023	135	7,052	16·1		
1918	427,589	7,609	7,392	17·3	8,452	19·8	318	395	984	133	8,529	19·9		
1919	430,834	7,837	7,564	17·6	7,099	16·5	401	294	899	119	6,992	16·2		
1920	448,913	11,587	11,229	25·0	6,725	15·0	417	283	1,232	110	6,591	14·7		
Area of District in acres (land and inland water)		21,593		Total population at all ages .. 445,550									At Census, 1911.	
				Total families or separate occupiers .. 102,514										

In November, 1912, by the addition of Roundhay, Seacroft, Shadwell and Crossgates, the area was increased by 4,682 acres and the population by 7,398 (Census 1911). Middleton added to Leeds on April 1st, 1920, acreage 1,814³/₄, population 1,207 (census 1911).

TABLE II. CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE CALENDAR YEAR 1920.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.							TOTAL CASES NOTIFIED IN EACH LOCALITY. (e.g. Parish or Ward) of the District.														Total Cases re-moved to Hos-pital.				
	At all Ages.	At Ages—Years.						Central.	North.	North-East.	New Ward.	East.	South.	East Hunslet.	West Hunslet.	Middleton.	Holbeck.	Mill Hill.	West.	North-West.	Brunswick.		New Wortley.	Armley and Wortley.	Bramley.	Headingley.
		under 1.	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.																				65 and upwards
Small-pox
Cholera (C) Plague (P)
Diphtheria (including Mem-branous croup) ..	885	10	166	535	115	55	2	2	81	70	54	26	65	98	..	78	21	25	31	36	48	76	30	70	781	
Erysipelas	254	4	1	15	30	70	102	32	25	16	25	1	11	15	..	14	10	8	21	15	9	30	13	29	50	
Scarlet Fever.. ..	1,363	4	183	958	160	53	5	..	114	115	107	43	120	136	1	75	15	53	85	61	44	106	116	119	1,244	
Measles	5,459	217	2,865	2,319	42	14	2	..	524	499	444	69	295	577	11	295	11	113	310	322	214	814	251	477	69	
German Measles	64	3	11	44	3	2	1	..	13	4	3	..	5	3	..	2	..	..	1	2	1	1	2	24	..
Typhus Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	29	..	..	9	5	12	2	1	2	2	4	..	..	1	..	3	..	2	..	1	1	1	1	7	20
Relapsing fever (R) Continued fever (C) .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	56	..	..	..	13	42	1	..	5	3	2	1	6	8	..	6	1	4	3	5	4	1	2	4	21
Continued High Temperature .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cerebro-Spinal Meningitis ..	5	..	1	3	..	1	..	..	..	..	..	..	2	1	..	..	2	..	..	..	..	..	..	..	2
Poliomyelitis	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Ophthalmia Neonatorum ..	141	141	..	..	..	..	..	..	10	14	16	8	13	5	..	12	5	11	12	7	13	4	..	5	..
Encephalitis Lethargica ..	8	..	..	2	1	3	2	..	1	1	1	..	..	1	..	..	1	..	..	1	..	2	..	..	2
Malaria	18	..	..	..	5	13	..	..	1	1	1	..	3	1	..	3	..	..	1	3	..	..	2	1	1
Dysentery	3	..	..	..	..	3	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1
Trench Fever	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Pulmonary Tuberculosis ..	962	2	11	148	235	387	157	22	81	106	99	39	52	61	1	65	10	56	52	60	51	64	37	67	520	
Other Forms of Tuberculosis ..	209	8	31	91	36	30	11	2	23	21	20	8	13	21	..	18	1	16	12	6	10	13	3	8	23	
Pneumonia (Acute primary) ..	285	14	59	49	29	79	43	12	19	18	30	29	9	25	..	38	..	9	11	10	17	42	2	12	..	
Do. (Acute Influenzal) ..	99	2	17	14	15	26	20	5	10	9	8	18	7	18	..	9	1	1	..	10	2	1	1	..	..
TOTALS	9,843	405	3,347	4,187	690	790	348	76	909	880	814	242	602	971	13	618	78	298	540	539	414	1,157	460	823	2,734	

Isolation Hospital or Hospitals, Sanatoria, &c.:—City Fever Hospital, Seacroft and Killingbeck.

In addition to the 520 Pulmonary Tuberculosis and 23 Tuberculosis (Other Forms), removed, 154 Pulmonary Tuberculosis and 9 Tuberculosis (Other Forms), were admitted to Armley Sanatorium, and 144 Pulmonary Tuberculosis and 12 Tuberculosis (Other Forms), were admitted to Gateforth Sanatorium which is outside the City. They are included in the 962 and 209 notified.

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TABLE IV.

INFANT MORTALITY. CALENDAR YEAR 1920. NETT DEATHS FROM STATED CAUSES
AT VARIOUS AGES UNDER 1 YEAR OF AGE.

CAUSES OF DEATH.				Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year.
All causes { Certified Uncertified				304 ..	92 ..	75 ..	49 ..	520 ..	260 ..	191 ..	146 ..	115 ..	1,232 ..
{	Small-pox .. ..			..	..	..	..	..	..	..	..	..	..
	Chicken-pox .. ..			..	..	..	..	..	..	..	..	..	..
	Measles .. ..			..	..	1	..	1	1	4	11	13	30
	Scarlet fever .. ..			..	..	..	..	..	..	..	..	1	1
	Whooping Cough .. ..			..	..	..	1	1	7	9	9	5	31
{	Diphtheria and Croup .. ..			..	..	..	..	..	..	2	2	..	4
	Influenza .. ..			..	..	..	..	..	..	2	2	4	8
	Erysipelas .. ..			..	..	..	..	..	..	..	..	..	..
{	Tuberculous Meningitis .. ..			..	..	..	..	..	1	3	5	4	13
	Abdominal Tuberculosis .. ..			..	..	..	..	..	3	1	2	3	9
	Other Tuberculous Diseases .. ..			..	..	..	..	..	..	3	1	2	6
	Meningitis (not Tuberculous) .. ..			..	..	..	..	..	3	1	5	3	12
	Convulsions			19	10	10	4	43	19	13	6	14	95
	Laryngitis .. ..			..	..	..	..	..	..	..	..	..	..
	Bronchitis			3	2	8	3	16	42	20	19	18	115
	Pneumonia (all forms)			3	4	5	3	15	27	33	33	22	130
{	Diarrhoea			3	6	8	9	26	35	41	14	11	127
	Enteritis												
	Gastritis			1	1	..	1	3	6	5	..	1	15
	Syphilis			5	5	10	3	23	18	12	6	..	59
	Rickets .. ..			..	..	..	..	..	..	1	3	1	5
	Suffocation, overlying			3	1	1	..	5	..	1	..	..	6
	Injury at birth			30	3	1	..	34	..	..	..	..	34
	Atelectasis			22	2	..	1	25	4	..	..	..	29
{	Congenital Malformations			10	5	5	..	20	14	3	2	1	40
	Premature birth			168	27	16	15	226	25	4	..	..	255
	Atrophy, Debility and Marasmus			26	14	6	7	53	40	24	14	2	133
	Other Causes			11	12	4	2	29	15	9	12	10	75
Totals				304	92	75	49	520	260	191	146	115	1,232

